The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. LVII, No. 25 CHICAGO, ILLINOIS DECEMBER 16, 1911

SUPRACLAVICULAR SUBCUTANEOUS LESIONS OF THE BRACHIAL PLEXUS NOT ASSOCIATED WITH SKELETAL INJURIES

WITH THE REPORT OF A CASE OF AVULSION OF THE ANTERIOR AND POSTERIOR SPINAL ROOTS *

CHARLES H. FRAZIER, M.D.
AND
PENN G. SKILLERN, JR., M.D.
PHILADELPHIA

Avulsion or rupture of the brachial plexus is not a common accident. Bowlby[1] was able to collect reports of but nineteen cases, and from that time to 1902, Bristow[2] was able to find by correspondence with a number of active surgeons and from the files of literature but three more. A large majority of these cases were due to indirect violence and were associated with some injury to the skeleton, the more common being dislocation of the shoulder, and fracture of the clavicle and humerus. Avulsion of the plexus without injury to the skeleton had been observed up to 1907, according to Kalb,[3] only four times; from a more exhaustive investigation of the literature, from 1873 up to the present time, we have been able to collect altogether twenty-one cases of rupture of the brachial plexus, partial or complete, all without skeletal injuries in which the precise nature of the lesion has been verified by operation. In every one of these cases the operative procedure was confined to the region of the plexus and in every instance the point of avulsion was found somewhere between the transverse process of a vertebra and the clavicle. While we have seen, in all, three cases of subcutaneous injuries of the plexus, the case which forms the basis of this report is the first in which the lesion proved to be an avulsion of the anterior and posterior spinal roots *within the dural sac*, and was uncovered primarily by a laminectomy. Because of its unique character and of the possible bearings the operative findings might have in accounting for the grave prognosis of brachial plexus injuries, the case is placed on record.

REPORT OF CASE

History.—G. F. R., a physician, was admitted to the University Hospital, May 10, 1910, under the care of Dr. Charles K. Mills, to whom the patient had been referred by Dr. Theodore Diller of Pittsburgh. Feb. 14, 1910, while walking along a street in Pittsburgh, the patient was struck on the left shoulder and head and crushed to the ground by a man falling from the fourth story of a building.

Examination of Affected Region.—The movement of the head to the left was somewhat restricted. When it was rotated as far as possible in this direction, there was some pain in the back of neck a little to the right of the median line. In movement to the right, the left sternocleidomastoid muscle did not come out distinctly; it seemed atrophied, but in movement to the left the right sternocleidomastoid muscle was very distinct. There was some pain on pressure and percussion over spinous processes of the sixth and seventh cervical and first thoracic vertebræ. There was no involvement of the third, fourth, fifth or seventh cranial nerves.

Sensory Disturbances: The following is a description of the pain given by the patient himself: "The pain is continuous; it does not stop a minute either day or night. It is either burning or compressing (like a vise) or dragging (a sense of weight) in character, or a combination of all these at the same time.

"Every few minutes this pain is intensified in a paroxysm lasting from a few seconds to a minute or longer. In addition there is, every few minutes, a jerking sensation similar to that obtained by touching, in the proper way, a Leyden jar, namely, a jerk, or a succession of jerks, either in the hand only or running the whole length of the arm and at times very severe.

"I have a graphic picture of it in my mind; it is like zigzag made in the skies by a stroke of lightning. The pain is felt sometimes in the very arm itself, but most of the time away from the arm, in what I got into the habit of calling an imaginary arm. The upper part of the arm is mostly free from pain; the lower part from a little above the elbow to the tips of the fingers, never. Pain of every character, burning, compression, dragging or jerking is increased by walking, standing or even sitting up, so that the recumbent position is a necessity for most of the day."

Examination for Disturbance of Sensation.—The subjective sensory disturbance seems to be in the distribution of the intercostohumeral nerve, and is indicative of involvement of the second left thoracic posterior root, and possibly the third.

Exceedingly interesting is the statement that rubbing or rough manipulation of the left side of the trunk above the nipple on the anterior surface produces the sharp pain on the inner side of the left arm. This seems to imply that irritation of the trunk or a portion of the intercostohumeral nerve causes pain referred to the other distribution of the nerve. Sensation for touch and pain is entirely lost in the left hand and forearm, and in the arm for about 2 or 3 inches below the elbow. From this point to about 3 or 4 inches below the shoulder, sensation for touch and pain is much impaired. Sensation, therefore, seems to be affected in the distribution of the entire plexus; it is impaired in the distribution of the intercostohumeral both on arm and trunk, and in the distribution of the fifth and sixth cervical roots. There is hyperalgesia in the distribution of the fourth cervical root, that is, in the left shoulder.

Examination for electro-sensibility with the wire brush shows loss of this form of sensation in all the region in which there is loss to touch, pain, heat and cold, and also deep sensibility. The loss of sensation merges into impaired sensation in the upper arm, as the shoulder is approached.

---

* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* Owing to lack of space, the article is here considerably abbreviated, but it appears in full in the Transactions of the Section and in the authors' reprints.

1. Bowlby: Injury and Diseases of the Nerves. Blakiston, 1890.
2. Bristow: Ann. Surg., 1902, xxxiv, 411.
3. Kalb: Deutsch. Ztschr. f. Chir., 1907, lxxxviii, 572.

In testing for cold (ice-cold test-tubes), the answers for the different areas were practically the same as for extreme heat. In testing for tactile discrimination, the compass-points were not felt over the area of complete anesthesia. Over an area of partially retained sensation the dull points were distinguished at a distance of 2¾ inches, the sharp at 1¾ inches, and in the hyperesthetic area the dull points at ¾ inch and the sharp at ½ inch.

On the right arm, the dull points were distinguished below the elbow at a distance of ½ inch, the sharp at 2/5 inch; above the elbow, the dull at 1 inch, the sharp at ½ inch; above shoulder, the dull at 1 inch, the sharp at 2/5 inch.

Motor Disturbance.—Inspection and examination showed a complete flaccid palsy of the entire left upper extremity; no movement in the limb, from and including the deltoid down. Patient could elevate the whole arm, as in shrugging the shoulders, but this was done by the scapular muscles, chiefly

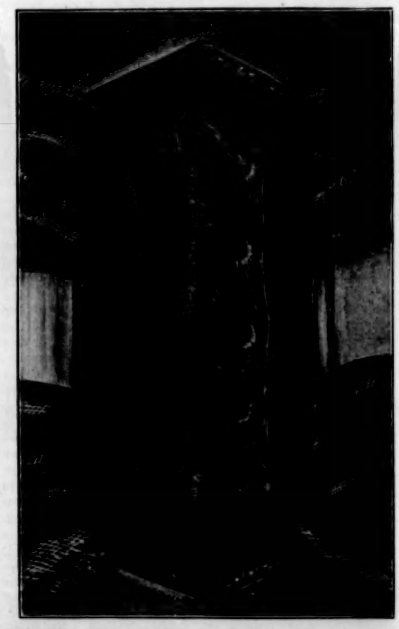


Illustration showing findings at operation. Note two defects in dura and absence of their spinal roots, C_6, C_7, C_8.

the supraspinatus and the rhomboideus major. The arm was somewhat wasted throughout the upper arm, forearm and hand. With the faradic current there was a loss of faradocontractility in all the muscles of the hand and forearm and upper arm, to a current of considerable strength. A current of moderate strength produced slightly marked contractility in all the corresponding muscles in the right arm.

Reflexes—Upper Extremity: The reflexes of the shoulder and upper extremity, including the von Bechterew, scapulohumeral, coracobrachial, triceps, and all muscle-jerks of arm, forearm and hand, were completely abolished.

The patient had lost entirely the sense of position and passive movement in the arm, except as regards movement in the shoulder joint. He was unable to tell anything as to position of the thumb, fingers, hand, wrist or forearm.

Reflexes—Lower Extremity: In the lower extremity the reflexes, especially on the left side, were greatly exaggerated. Knee jerks were plus, plus. Foot-clonus present but not very persistent. No Babinski response, but unusual plantar irritability. The von Bechterew metatarsophalangeal reflexes were present and very prompt.

Radiographic Report (Dr. Pancoast).—There is a possibility of some separation of the seventh cervical and first thoracic vertebræ on the left side. The articular facet of the seventh cervical vertebra is more readily seen than that of the other vertebræ. The radiograph shows also an atrophy of the head of the humerus and adjacent portions of shoulder joint. The clavicle is apparently intact.

Ocular Examination (Dr. Langdon).—There is a difference in the palpebral fissures, the right being about 2 mm. wider than the left. The lid motions seem to be normal.

The left pupil is smaller than the right. The left eye does not uncover as well as the right, in looking straight ahead, downward or upward. It appears as if the eye might be somewhat retracted, or the condition might be expressed as ptosis or pseudoptosis. This appearance of the left eye, a sort of anophthalmos, gives by contrast to the right eye the appearance of slight bulging or exophthalmos.

Operation (Laminectomy—Dr. Frazier).—May 23, 1910, under nitrous-oxid ether anesthesia, preceded by a hypodermic of morphin and atropin, with the patient in reversed Trendelenburg position and on his side, a curved incision was made through the skin down to the aponeurosis, beginning at the spinous process of the fourth cervical and extending to the spinous process of the second thoracic vertebra. On reflection of the cutaneous flap, a linear incision was made in the aponeurosis in the median line, the muscles separated from the spinous processes of the fifth cervical to the first thoracic vertebræ, which, together with the laminæ of the sixth and seventh, were removed. On opening the dural sac the cerebrospinal fluid was found to be under considerable tension and about 1½ to 2 ounces immediately escaped. Inspection revealed the following conditions: On the left lateral aspect of the canal corresponding to the level of the sixth cervical and the first thoracic vertebræ there were two defects in the dura, each as large as a ten-cent piece. On the left side both the anterior and posterior roots of the sixth, seventh and eighth cervical nerves were absent. The roots evidently had been torn completely from the cord. There were some adhesions between the cord and dura on the posterior surface at the level of the seventh cervical and first thoracic vertebræ. These may have been the site of subdural hemorrhage at the time of the accident. The operation was undertaken with the intention of carrying out a purely palliative procedure. We planned to cut the posterior roots of the fifth, sixth, seventh and eighth cervical and the first thoracic nerves. As the sixth, seventh and eighth were absent and I had just divided the first thoracic, it remained only to divide the fifth cervical. The latter was reached by removing only half the lamina of the fifth cervical vertebra. The dural incision was closed with continuous catgut sutures, the muscles with interrupted, and the aponeurosis with a continuous catgut suture. A stab wound was made for the introduction of a small cigarette drain and the cutaneous wound closed with a continuous silk suture.

Postoperative History.—On the third day after the operation, the patient developed some congestion of the lungs, at which time there was a rise of temperature, some moist rales and expectoration of mucus. This condition rapidly subsided and on the eighth day the stitches were removed and the patient returned again to the service of Dr. Mills.

June 20, 1910, twenty-seven days after the operation, he left the hospital. In the interval between the operation and his discharge from the hospital the amount of opium was gradually reduced until for a few days he was able to pass both the day and night in reasonable comfort with none at all, a condition which had not existed since the time of his injury three months before.

The patient still had many of the subjective sensations in the arm, including pain of which he had complained before the operation, but the pain was more bearable and the burning sensation or hyperalgesia in the distribution of the fourth

V. 57 1911

cervical and second thoracic had, in a large measure, disappeared.

He had the reflex pain excited in the arm by stroking the hyperalgesic area on the chest. The general morale of the patient was in slight measure improved, so that he was able in the fall of 1910 to resume his practice to a limited extent.

DISCUSSION OF CASE

The determination of the precise seat of the lesion, that is, whether within or without the dural sac, was, however, a matter of the utmost importance in this case. The pupillary phenomena are, when present, absolutely conclusive evidence that there is an intradural lesion at least of the eighth cervical and first thoracic. On the other hand, though the sensory disturbance pointed clearly to the involvement of the fifth, sixth and seventh cervicals, that is, the superior portion of the cervical plexus, the absence of paralysis of the rhomboidei, the levator anguli scapulæ and especially the serratus magnus was equally conclusive that these three nerves could not all have been injured within the dural sac. Even after the character and extent of the lesion were revealed it was not altogether easy to account for the sensory and motor phenomena as elicited before the operation. For example, the presence of anesthesia in the cutaneous supply of the intercostohumeral nerve was somewhat perplexing as was the hyperesthesia in the distribution of the cervical plexus. However, there was evidence in the lower extremity of an injury to the anterior horns of the cord itself, and it is quite possible that in the avulsion of the roots the posterior segment suffered also. The discovery with the radiograph of some separation of the seventh cervical and first thoracic vertebræ was at least suggestive of an intraspinal lesion. There were at all events some perplexing features and if we add to these the neurotic and emotional temperament of the patient we increase still further the difficulty of accurate localization.

For the purpose of relieving the intense neuralgia of which the patient was complaining, we planned to cut the posterior roots of the fifth, sixth, seventh and eighth cervical and first thoracic nerves. Accordingly, on May 23, 1910, a laminectomy was performed and when the dural sac was opened, we were astonished to find the conditions as above noted.

DIAGNOSIS

For purposes of convenience in discussing the diagnosis of supraclavicular injuries of the plexus, we may divide the plexus into three portions: (1) the intravertebral portion contains the separate anterior and posterior roots within the dura mater; (2) the intervertebral portion where the nerve roots leave the spinal canal enclosed in a separate sheath of dura mater and the spinal ganglia lie in the intervertebral foramina; (3) the extravertebral portion comprising that portion of the nerves from the intervertebral foramina to a point where, at levels varying in different subjects, they unite to form the various trunks.

In the extravertebral lesions the symptoms will depend on whether the nerves are injured distal or proximal to the point at which branches are given off to the rhomboids, the serratus magnus, and the levator anguli scapulæ, or still farther from the cord to the supra- and infraspinatus muscles. If these muscles are not paralyzed and the pupillary phenomena are absent, it is to be presupposed that the lesion is extradural. In extravertebral lesions of C_5, C_6 and C_7 with or without C_8 and T_1, the supra- and infraspinatus muscles may be paralyzed because the suprascapular nerve leaves the C_5 and C_6 after their exit from the dural sac.[4] If the serratus magnus, rhomboidei and levator anguli scapulæ are paralyzed, especially the serratus magnus, it is conclusive evidence that the lesion involves the fifth and sixth cervical roots either intervertebral or just distal to that point. Of the intravertebral or intervertebral lesions the most important diagnostic sign is the so-called pupillary syndrome first described by Poirier[5] in 1727, the contraction of the pupil on the affected side, the narrowing of the palpebral fissure and the pseudoptosis and sinking of the eye-ball (anophthalmos). These ocular phenomena indicate involvement of the ciliospinal fibers to the sympathetic, which accompany the first thoracic and sometimes the eighth cervical nerve. These branches to the sympathetic leave the roots just at the point of emergence from the cord. And while in most intravertebral lesions these ciliospinal fibers would be involved, it is possible to conceive of an injury to the roots within the spinal canal distal to the detachment of the ciliospinal fibers. While the presence of oculopupillary symptoms is positive evidence of an intravertebral lesion, their absence must not be interpreted as precluding the possibility of a lesion within the spinal cord in contradistinction to one without. As above mentioned, the ciliospinal fibers accompany sometimes both the eighth cervical and first thoracic, sometimes only the first thoracic, so that we are always safe in assuming that at least one (T_1) if not both (C_8 and T_1) are the seat of injury. It must be remembered, however, that there are notable and marked exceptions. For example, in none of Vandenbossche's cases[6] were these symptoms present, and they were absent in the cases of d'Astros, Guillemot, Duval and Quillain, and de Peters (quoted by Vandenbossche).

Usually both the anterior and posterior roots are involved to an equal degree. The anterior are more apt to be torn than the posterior because, as Duval and Guillain[7] showed on the cadaver, when the arm is abducted from the body and the head rotated in the opposite direction the tension is greater on the anterior than on the posterior roots, and if the tension is increased, the anterior roots will be torn first. Therefore, *a priori* the predominance of motor over sensory disturbances would seem to bespeak an intradural lesion.

Applying what has already been said as to differential diagnosis to the case we have reported, one is struck at once with certain contradictory symptoms. In the first place the presence of pupillary phenomena at once indicated a lesion intravertebral either of the eighth cervical and the first thoracic or of one of these, and as a matter of fact we found at the operation that the eighth cervical roots both anterior and posterior were torn. On the other hand, the absence of paralysis of the serratus magnus, the supra- or infraspinatus or the muscles which elevate the shoulder was strong presumptive evidence of an extravertebral lesion at least of the motor roots. But as we have seen, the anterior roots of the sixth, seventh and eighth cervicals (C_6, C_7 and C_8) had been completely torn from the cord. One can only explain this complex situation by assuming that the above-mentioned muscles received adequate innervation from the fifth cervical. The presence of anesthesia in the territory of the branch of the intercosto-humeral, supplying the inner aspect of the arm, would not have been expected unless the second thoracic was involved. It may have been traumatized by traction at the time of the accident, but the posterior

4. Grenet: Arch. gén. de méd., 1900, clxxxvi.
5. Poirier: Jour. de Petit, 1727.
6. Vandenbossche: Rev. de chir., 1910, xli, 817.
7. Duval and Guillain: Arch. gén. de méd., August, 1898.

roots of neither the first nor second thoracic had been ruptured.

One of the most difficult conditions to distinguish from an organic lesion of the plexus is hysteria, not so much where the functional disturbance is limited to a single root, trunk or cord, as where two or more are involved. Even the results of the electrical reactions are misleading, as in the case of Rendu.[8] The sensory disturbance is, as a rule, a better guide, as in hysteria, when it is more accentuated than the corresponding disturbance of motion. The absence of other signs of a general neurosis should not be credited against an hysterical lesion of the plexus, contrary to the statement of Thorburn,[9] who writes that the absence of other hysterical manifestations, taken together with the completeness and unaltering character of the symptoms, renders such error impossible. According to Raymond,[10] in cases of pure hysteria one should find on the internal aspect of the arm a triangular zone, where there is no anesthesia, corresponding to the distribution of the intercostohumeral nerve (int. cut. branch). The symmetrical distribution of anesthesia in hysteria is usually very different from the areas of anesthesia represented in organic lesions.

In our own case, hysteria was not at first excluded, and very properly so. The patient was of an emotional and highly nervous temperament; the shock of the injury, dreadful as it was, was magnified by the death of the patient's wife two weeks after the injury. The areas of disturbed sensation did not, when tested by Dr. Theodore Diller, conform altogether to the distribution either of a peripheral or spinal cord lesion. Dr. Diller expressed his opinion at the time of his examination that the case was one of hysteria, a diagnosis which he did not make, however, without reserve. The form of sensory disturbance, the emotional state of the patient, and the absence at that time of any considerable atrophy suggested hysteria. Even though at the operation we found a serious organic lesion, the existence of severe pain before the operation and its persistence after the severance of the remaining sensory roots supplying the brachial plexus, certainly gave to the case an hysterical perspective.

MECHANISM

It was at one time thought that direct rather than indirect violence was responsible for subcutaneous injuries of the brachial plexus. The nerves, it was said, were squeezed or crushed between the clavicle and first rib or transverse processes of the cervical vertebræ. This seemed a reasonable explanation especially in those cases in which the clavicle was broken or the injury was sustained by a blow from a heavy falling object or where the subject fell or was thrown with force striking the shoulders. Subsequent observations, however, both clinical and experimental have proved beyond question that in all cases the essential element in the mechanism of the lesion is traction. The nerves are put on the stretch and altogether or partially severed. For example, in one case, the lesion was produced by a blow on the forearm forcing the upper extremity away from the body in such a position as to put the plexus on the stretch. When at the same time (as in Kalb's case) the head is forcibly inclined toward the opposite shoulder the tension on the plexus is still greater.

PATHOLOGY

More important than the mechanism and place of injury is the pathology. Two varieties are met with, the first in which the continuity of the nerve-trunk appears to be preserved although function may be altogether abolished, and the second in which there is an actual loss of continuity. In the first the perineural sheath may be torn and there is a complete or partial rupture of the nerve fibrils. This is followed by an extravasation of blood within the nerve and an acute hyperemia, which together resolve themselves into cicatricial tissue, the ingrowth of which into or between the nerve fibrils offers an insurpassable barrier to the regeneration of nerve tissue and is the most potent factor, when rupture is incomplete, in preventing spontaneous restoration of function. In this variety the nerve is usually described as having the appearance of a fibrous cord. In the second variety, with actual separation, the distal end will be found some distance away, often beneath or below the clavicle.

The complete palsy occasionally observed when the continuity of the nerve has not been destroyed and the rather unsatisfactory results often following a properly executed neurorrhaphy, suggest a further elaboration of the pathology of brachial plexus injuries. The possibility of an associated injury to the spinal roots, as seen in our own case, may very properly be considered. The combined lesion, complete severance intraspinal, and partial severahce extraspinal, is not inconsistent. Furthermore, it is quite within the range of possibility that forcible traction on the plexus may damage the cells within the cord itself and determine a degenerative process. These two hypotheses are not without significance if we should attempt to account for the many failures following reconstruction and repair of the injured plexus.

PROGNOSIS

Generally speaking, the nearer the lesion to the spinal cord the more grave the prognosis. As a rule, one is unable to draw any inference from the degree of violence as to the ultimate prognosis. When sensation for pain, temperature and touch are lost, when the reactions of degeneration are complete and there is complete loss of conductivity the prognosis is correspondingly grave. Spontaneous recovery should not be expected, according to Warrington and Jones,[12] if some improvement has not been observed within some months. Of secondary suture of the nerve, Bowlby[13] says, and with this Sherren agrees, that there has never been a successful case if undertaken four years or more after the injury. *While there are certain exceptions, spontaneous recovery without operation after subcutaneous injuries of the plexus should not be anticipated.*

It is very difficult to express in anything like exact terms the end results of the surgical treatment of brachial plexus palsy. The difficulty is usually twofold; in some instances the reports are very imperfect as to detail; in others the final note is made often too soon after the operation, a few weeks or so, before one could expect any material advance in the process of regeneration and restoration of function. No doubt if an examination were made at a much later period greater improvement might have been observed, but a general review of the whole situation leaves one with a very vivid impression that with the procedures now in vogue the results of the operation will be found on the whole

8. Rendu: Soc. méd. d. Hôp., July 10, 1891; Arch. Neurolog., September, 1887.
9. Thorburn: Brit. Med. Jour., April 28, 1900.
10. Raymond: Clin. d. Mal. du Syst. Nerveux, 1896. 1st Series.
12. Warrington and Jones: Lancet, London, 1906, II, 1644.
13. Bowlby: Lancet, London, 1902, II, 198.

V. 5
1911

far from ideal. It is only fair that due allowance should be made for the length of time which has elapsed from the date of the accident to that of the operation. It is generally conceded, and with reason, that the shorter the interval between the date of the nerve injury, whether it be rupture or contusion, and the date of the operation, the greater the chances of complete regeneration. The embedding of the nerve in a mass of cicatricial tissue for any length of time must have of itself a deleterious influence. To postpone operation a year after such an injury is preposterous, to say the least, and yet in the tabulated cases six, seven, eight, nine months and a year were not exceptional. In rendering a prognosis, one should not forget that there is the widest variation in the time at which improvement may first be noted, and that in some cases more than a year may elapse before there is the slightest evidence of return of function, either motor or sensory. In this connection Tubby's case was especially interesting; the operation was not performed until six months after the injury and while but one nerve was involved (C_5) the first signs of improvement were not detected until two years had elapsed. In one of Sherren's cases of nerve suture after division of the upper and middle trunks,[14] return of sensation was not observed until 182 weeks after the operation, and only after the lapse of 333 weeks (over six years) did all the previously paralyzed muscles respond to faradization. This should impress on us all the importance of insisting on the continuance after operation without interruption for months, of those measures designed to preserve muscle tone until voluntary power is restored. We refer especially to massage, passive motion and electricity.

TABLE OF RESULTS OF OPERATION

Operation	No.	Return of sensation	Return of motion	Effect on pain
Suture of 3 cords...	4	slight	feeble movements (3)	.....
Suture of all trunks.	3	slight (2) none (1)	none (2) slight (1)	.....
Suture of all nerves.	1	none	none	.....
Suture C 7.....	1	slight	none	.....
Suture C 5 and C 6.	1	none	none	.....
Graft dog's sciatic ..	1	none	only in biceps	.....
Suture à distance...	1	partial	partial	.....
Dissection of cicatrix	1	.....	.....	.....
Excision of plexus...	1	.....	.....	.....
Division sensory roots C_8 T_1.....	1	.....	.....	partial relief
Amputation	2	.....	.....	partial relief
Separation too great to suture	1	.....	.....	.....

Even in the cases in which operation was performed we fail to find a single instance in which either sensation or motion was restored to anything approaching normal conditions. Of ten cases of suture (see table) of nerves, trunks or cords, in six there was no restoration of motion, and in three, feeble movements are reported as restored to a limited group of muscles. In the same series, sensation was restored in a limited degree to six and not at all to four. In one case after grafting a piece of a dog's sciatic nerve, there was partial return of sensation and motion. While the difference is proportionately slight and perhaps only a coincidence, there was a larger percentage of recoveries of motion after suture of the trunks than after suture of the cords. As is well known, sensation is almost invariably recovered before motion and to a greater or less degree in a larger percentage of cases.

TREATMENT

As with many other operable lesions of the nervous system, there is an unpardonable delay between the time the diagnosis is established and resort to operation. Subcutaneous injuries of the plexus must be regarded as a serious injury either with or without operative interference. The number of spontaneous recoveries is exceedingly small and yet it is extraordinary how many patients have been allowed to progress to a hopeless state without operation and how many are not operated on until months have elapsed. In view of the gravity of the lesion, of the resulting disability and of the occasional intractable neuralgias, surgeons should insist on resort to operation, if not immediately, at least as soon as it can be demonstrated with reasonable certainty that spontaneous recovery is improbable. An excellent working rule is that of Sherren,[15] that *all subcutaneous injuries which give reactions of degeneration at the end of ten days should be submitted to operation.* If the muscles, though paralyzed, react to a faradic current no operation should be performed and the case treated as one of incomplete division. If this rule is strictly observed the future of brachial plexus surgery will be more replete with encouraging reports.

The method of procedure will vary according to the nature of the injury, whether we are dealing with (1) an injury to the plexus without complete rupture, (2) rupture of the plexus at a point accessible for suture, (3) rupture of the plexus at a point inaccessible and (4) terminal neuralgia.

1. As for injuries to the plexus without complete rupture, we must keep well in mind the pathology. These are the cases in which the nerves appear at the operation as fibrous cords. At the time of the accident there was a more or less extensive hemorrhage into the nerve sheath with rupture within the sheath of some axis cylinders. The traumatic exudate organizes at the expense of the axis cylinders. If we are right in the premises, the logical procedure under such circumstances would be a free incision into the sheaths of the affected trunks or cords for the evacuation of the still unorganized traumatic exudate, thus allowing the nerve to regenerate free from the baneful influence of cicatricial tissue. As we have had no opportunity to operate on recent injuries of the plexus this view would seem at first speculative, but in looking over the literature of the surgery of the nerves one of us (C. H. F.) chanced on a somewhat analogous condition in which this principle was applied with extraordinary success. In the case to which we refer the median nerve had been traumatized[16] and showed a grayish fusiform swelling three times its normal size. The enlargement was incised in a vertical direction and the exudate evacuated. Within four days the area of anesthesia had diminished about one-third and subsequently there was a progressive increase in power. In recent experiments on the spinal cord, Allen[17] found that a free vertical incision in the cord immediately after it was traumatized prevented the serious structural changes which inevitably followed under similar conditions in control cases.

2. We shall not elaborate on the management of cases in which the plexus *in toto* or in part has been ruptured. Here the various methods of direct suture, of lateral anastomosis, of grafting, of suture *à distance*, are applicable and should be executed with the painstaking detail and with the delicacy of manipulation which are so necessary to success in nerve suture. Spitzy,[18] who has had perhaps the largest operative experience, lays the greatest stress on atrophy as being

14. Sherren: Lancet, London, 1906, i, 746.

15. Sherren: Clin. Jour., August, 1907.
16. Babcock: Nerve Disassociation, Ann. Surg., 1907, xlvi, 686.
17. Allen, A. R.: THE JOURNAL A. M. A., Sept. 9, 1911.
18. Spitzy: Ztschr. f. orthop. Chir., xiii, xiv, xv; Arch. f. Orthop., iii, No. 1.

of more importance than the particular form of functional disturbance. He favors lateral anastomosis of the affected into the unaffected nerve through a longitudinal slit. He emphasizes further the importance of accurate suturing to prevent ingrowth of fibrous tissue. In Murphy's elaborate and comprehensive paper on neurological surgery,[19] the intricate details are dealt with *in extenso*. But even when the divided structures of the plexus have been sutured under most favorable auspices the results, as we have already shown, are anything but gratifying. In this connection the recent work of Harrison,[20] later applied by Carrel, seems to me pregnant with possibilities, and I hope to present in the near future the results of the application of this principle to the regeneration of nerve tissue.

3. Rupture of the plexus at a point inaccessible for suture. When complete rupture occurs the nerve usually gives way at the outer margin of the anterior scalene muscle, and while the distal ends may disappear beneath the clavicle there may be no difficulty in approximating the divided ends. Occasionally, however, the point of rupture is so near the vertebral column or actually within the intravertebral foramina that approximation and suture is impracticable. When but one or two roots are involved, lateral anastomosis into the uninjured nerve may be resorted to, but when the entire plexus is involved the cases have hitherto been regarded as hopeless and abandoned. To meet this emergency Alexinsky,[21] in 1899, introduced an entirely new thought. In a series of observations on the cadaver and on animals he found it was quite feasible to effect an anastomosis between a nerve from the unaffected side with that on the affected side.

So far as we know, Alexinsky's operation has been practiced but once in the human subject,[22] where in a case of infantile palsy, an anastomosis was effected between a prolongation of the sixth cervical nerve on the sound side and the sixth cervical nerve on the affected side. The nerves when freed were carried by blunt dissection in front of the trachea where an end-to-end suture was effected. Three and one-half months after the operation there was a very pronounced improvement. In view of the earlier work of Alexinsky and the results in Babcock's case we feel justified in recommending this procedure when the injury to the roots or nerves makes direct apposition of the divided nerves impossible, or when, as frequently happens in many cases in which the results of suture are unsatisfactory, the cells in the anterior horn have been damaged.

NEURALGIA

There remains for consideration the management of those cases in which neuralgia is the paramount condition demanding relief. It will be recalled that this was precisely the situation in our case. The patient was unable to withstand the pain except under the continued influence of opium. Both the patient himself and his physicians urged hasty recourse to any method which would offer reasonable assurance of relief, without respect to its effect on the motor palsy.

From the historical point of view, the case of Sands and Seguin in 1873 is of peculiar interest because it seems to be the first recorded case of rupture of the brachial plexus in which an operation was performed especially for the relief of neuralgia which was so intense that the patient's condition had become quite desperate. Dr. Rogers in consultation advised, with the view of interrupting the neuralgia, complete chloroform anesthesia for a period of twelve hours, and Dr. Seguin recommended counter-irritation to be applied near the supposed seat of nerve lesion above and below the clavicle. Dr. Hamilton proposed amputation of the arm near the limit of anesthesia; the proposal was concurred in and the arm was amputated; although there was some temporary relief in a fortnight the pain was again uncontrollable. About two months later, Dr. Sands proposed section or resection of the nerves of the plexus at a point nearest the intervertebral foramina. This operation was considered of so much importance at the time it was recorded that there were present at the operation which Dr. Sands performed, Drs. Cave, George A. Peters, William H. Draper, F. N. Otis, T. T. Sabine, John G. Curtis, McCreery and E. C. Seguin. Drs. Hamilton and Barstow had been invited to attend but were unable to come.

While the relief was by no means all that could have been desired, the end results were such as to justify Sands in endorsing this operation as a procedure not dangerous in itself and capable of relieving a neuralgia which has resisted all ordinary treatment.

Von Nussbaum,[23] in the first published volume of the *Deutsche Zeitschrift für Chirurgie* thirty-eight years ago, wrote that in exposure and stretching of nerves we have a new and promising means for the relief of cases of uncontrollable pain, but time has not fulfilled his predictions. We know now how transitory are the effects of this operation. Therefore, when confronted in our own case with the task of suggesting some appropriate measure I proposed without hesitation intraspinal resection of the sensory roots, an operation first proposed by Dana and later advocated by Chipault.[24] In a case of neuralgia of unknown origin the posterior roots of the eighth cervical and first thoracic were cut with complete relief. [In the same article[24] Chipault writes if this principle was applicable to the trigeminal nerve we could cure trigeminal neuralgia; but unfortunately it is not. Since that time avulsion of the sensory root of the ganglion of Gasser (Spiller's operation) has become a conventional procedure.]

The condition found at the operation and the results have already been recorded; suffice it to say that the failure to obtain complete relief was not the fault of the procedure selected. For these intractable forms of neuralgia following rupture of the brachial plexus, we believe section or resection of the sensory roots should be recommended unhesitatingly. In this lesion as well as in neuralgias of other sources, as in the tabetic crises and in the presence of inoperable carcinoma, the sensory root resection has fulfilled its purpose.

One of us (Frazier) has performed all told, in the past two years, six laminectomies for section of the posterior roots. The operation has been without fatalities, as it should be when dealing with favorable subjects, notwithstanding the opinion of Kocher, who, in the new edition of his "Operative Surgery," which has just appeared, treats the operation in a very summary fashion, refers to Tuffier's series of seven cases with two fatalities, and regards it as of doubtful service, to be used only in exceptional circumstances.

There are some points in the technic which we have found helpful; the cutaneous incision should be a curved

19. Murphy: Surg., Gynec. and Obst., 1907, iv.
20. Harrison: The Physiochemical Influence of the Growth of Tissues, Jour. Exper. Med., 1911, xiii, No. 4.
21. Alexinsky: Chirurgia, 1899, vi.
22. Babcock, W. Wayne: Transbrachial Anastomosis, THE JOURNAL A. M. A., May 25, 1907, p. 1743.
23. Von Nussbaum: Deutsch. Ztschr. f. Chir., i, No. 5, p. 450.
24. Chipault: Nouv. Iconog. de la Salpêtrière, viii, 136.

V. 57
1911

one, not directly over the incision in the aponeurosis; the muscles should be separated from the spinous processes by a chisel, not only to expedite matters, but to avoid too much mutilation, it is not necessary always to remove the spinous processes, although in most instances it is advisable; a hemilaminectomy will suffice, when exposure of only one side is required and not more than two or three successive laminæ should be removed. If these precautions are observed the strength of the spinal column will not be affected. Of paramount importance is the accurate identification of the individual vertebræ before the operation is begun, otherwise the subsequent identification of the roots will be a matter of guesswork. In the separation of the posterior from the anterior roots one should trace the root from its attachment to the cord. Every vestige of blood should be removed before closing the dural sac, which should be done with a continuous suture to prevent leakage of cerebrospinal fluid. This leakage adds to the shock of the operation, to the risk of infection and interferes with wound repair. The muscles, aponeurosis and skin should be sutured *en tier* and drainage to the bottom of the wound provided for. In the cervical and upper thoracic region a general anesthetic must be used; in the lower thoracic and lumbar regions spinal anesthesia may be substituted to advantage.

The treatment of brachial plexus injuries and its effects is, as we have tried to indicate, very variable, depending partly on the pathologic nature of the lesion, partly on the seat of the lesion and partly on whether we aim to obtain radical, or, as in cases of neuralgia, merely palliative results. Above all else we lay stress, as Vandenbossche[25] so ably and forcefully does, on the utter folly and pitiable results of indefinite postponement of operation.

CONCLUSIONS

1. The case herewith presented is the first on record in which the seat of the lesion within the dural sac was discovered at operation.

2. Avulsion of the plexus, partial or complete, without skeletal injury, is comparatively infrequent. There are recorded all told but twenty-one cases in which the precise nature of the lesion has been verified by operation.

3. In the mechanism of avulsion traction is the most influential factor.

4. In the pathology emphasis is laid, first, on the presence and on the injurious effects of the traumatic exudate, the organization of which interferes with nerve regeneration; and secondly, on the possibility of an intraspinal lesion (either avulsion of the roots or degeneration of the cord) associated with an extraspinal lesion, as a clue to the larger percentage of failures following reconstructive operations on the plexus as compared with similar operations on the peripheral nerves.

5. The authors failed to find a single instance of complete restoration of function. Without operative interference the outlook is almost invariably hopeless. Unpardonable delay in operating may account for some failures. Six years may elapse before the end results manifest themselves.

6. In view of the gravity of the lesion, of the resulting disability and of the occasional intractable neuralgia, surgeons should insist on immediate resort to operation.

7. If, at the operation in very recent cases, the nerves are found swollen and their continuity not altogether destroyed, an incision should be made into the nerve to allow of the evacuation of the exudate.

8. When the approximation of the ruptured nerve is impossible, a cross anastomosis may be affected with the nerve on the unaffected side, as first proposed by Alexinsky.

9. In cases of intractable neuralgia one should not hesitate to resort to intraspinal section of the sensory roots.

We are indebted to Dr. Charles K. Mills for the privilege of reporting this case and to Dr. Mills and Dr. William S. Spiller for their careful analysis of the clinical phenomena.

1724 Spruce Street—241 South Thirteenth Street.

25. Vandenbossche: Rev. de Chir., 1910, xxx, 817.

ABSTRACT OF DISCUSSION

DR. W. W. GRANT, Denver: The dictum of Langley and Anderson that when the cervical sympathetic ganglion is excised and union is made of the proximal and distal segments, functional regeneration cannot occur, only exemplifies the other very well established fact, that when a nerve is severed or destroyed by disease, regeneration will not occur unless there is a neurilemma. The fact that one or two of the cases reported by Dr. Frazier demonstrated that the nerve was but a fibrous cord, although the nerve had not been severed, only shows complete degeneration of the nerve does occur, whether the nerve is divided or not; in other words, that some infective condition or inflammatory degenerative change had produced this condition.

The cases are lamentable in the fact that there are so few recoveries, seemingly, in traumatic injuries of the brachial plexus; and yet if the nerve-roots are destroyed or seriously damaged, especially within the vertebral canal proximal to the ganglion, or reaching to the commissure of the cord, regeneration will not occur, no matter how perfect the anastomosis nor how complete the aseptic technic. It should be remembered also that there is always an atrophy of the motor nucleus in this condition, both proximal and peripheral. How far this will extend depends very much on the nature of the injury and the resulting processes thereafter. I am extremely hopeful that when we more perfectly understand the nature of the causes leading to this condition, the future will bring better results.

There are other things of vital importance in securing a good result in the surgical treatment of injuries resulting in the severance of the nerves, whether traumatic or from disease; and that is, in addition to the operation of anastomosis, which, if correctly done, should be end to end, the protection of the nerves at the seat of anastomosis from excessive connective tissue proliferation and subsequent or consequent (cicatricial) contraction. Penetration of cicatricial tissue by axones is often impossible; and unless means are provided by the operator to prevent this condition, the result will be unfavorable as to the regeneration, or restoration, of function, no matter how perfect the asepsis, nor how perfect the anastomosis may be. Different means have been used for this purpose. Some will cover the joined nerves in a muscle or adjoining fascia; others will use egg membrane, others animal peritoneum, or Cargile membrane, which is the one I have myself employed. If this is done, and the nerve ends thoroughly protected and care taken to prevent any tension on the nerves, the results are quite satisfactory.

I wish in this connection to say that laceration is even more fatal than a direct incision or injury. The laceration is more destructive, it extends further, it is more apt to extend into the vertebral canal; those are the most doubtful cases; and likewise in those cases it is extremely difficult, if not impossible, to discriminate as to the damage to the plexus or roots or to both until after operation. But if the means I have stated are used during operation and there is no serious damage to the canal, there is no better or brighter field for surgery than nerve anastomosis even in injuries of the brachial plexus.

THE SIMULTANEOUS AND CYCLIC APPEARANCE OF EPIDEMICS OF PNEUMONIA, GRIP AND ENTERITIS ON THE NORTHERN HEMISPHERE

AND THEIR SYNCHRONISM WITH SOLAR ACTIVITY CYCLES *

C. M. RICHTER, M.D.
SAN FRANCISCO

Before this Section in 1894, I read a paper on the influence of atmospheric pressure conditions on the prevalence of pneumonia,[1] and I published a further study on this subject in 1908.[2] My conclusions, based on my former research and with special reference to epidemics of pneumonia in Chicago and San Francisco during the five years, 1899 to 1904, I formulated thus:

Pneumonia is not merely a concomitant of the cold weather season. Its prevalence depends on anticyclonic weather, summer and winter, on the northern hemisphere, and not on low temperature. There is sufficient reason to assume that the quality of the air of an anticyclone changes in conformity with changes in the activity of the sun and that the prevalence of grip and pneumonia is subject to a specific quality of such air.

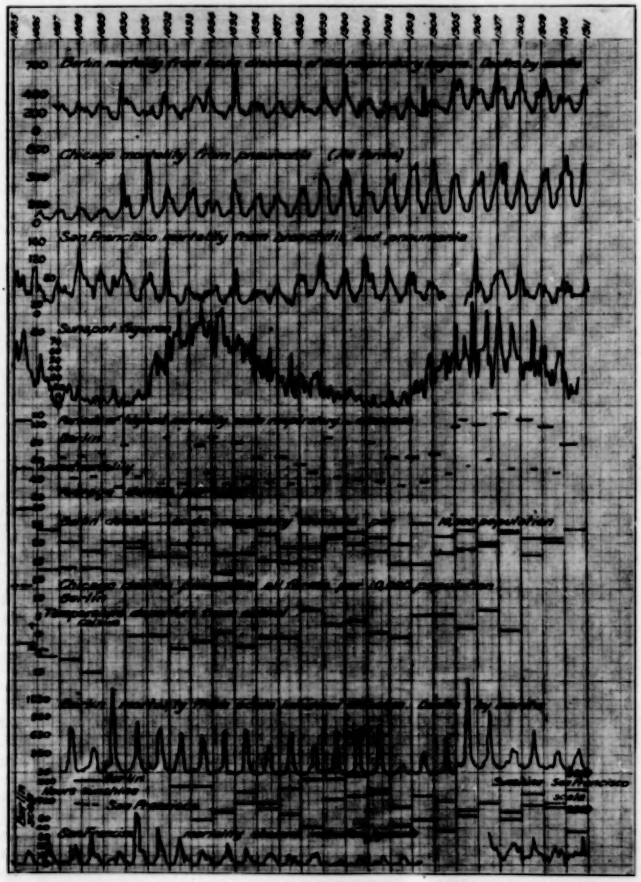


Chart 1.—Epidemics of pneumonia and enteritis in Berlin, Chicago and San Francisco.

In support of these conclusions, I prepared charts† showing: first, the even temperature and humidity line of San Francisco, the number of hours of sunshine and the amount of rain for every day of the eleven years, 1888-1899, where obtainable, in contrast to lines of pneumonia and bronchitis mortality per week and the air-pressure extremes of every day; second, similar data during the time of grip and pneumonia epidemics at Berlin and New Orleans in the winter of 1889-90; and third, charts giving the weekly pneumonia mortality and the daily air-pressure observed at Chicago and San Francisco during the five years, 1899 to 1904.

I emphasized in my last paper that "any investigation of this nature should not be limited to proving a reciprocal relation of certain weather conditions and pneumonia and grip as existing in a city or on a small part of our globe, but should be carried on to prove such relation for at least one hemisphere." In consequence, I studied this subject in reference to Berlin, as the figures published weekly by the Imperial Health Office of Germany give ample material for such study. I prepared two charts in relation to this research, each covering the twenty-four years from 1887 to 1911, showing the weekly mortality from acute respiratory diseases, the daily extremes of air-pressure, temperature and relative humidity, the figures of rain, of sunshine, of the sunspots observed on every day, and the weekly mortality from acute gastro-intestinal diseases. The wind direction is given for the periods of epidemics.

* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Richter, C. M.: THE JOURNAL A. M. A., Aug. 4, 1894, p. 188.
2. Richter, C. M.: THE JOURNAL A. M. A., Aug. 22, 1908, p. 660.

† These charts were on exhibition at the Los Angeles Session, in the Scientific Exhibit.

V. 5
1911

For convenience, I use in this paper and on the charts, when not otherwise stated, the word "pneumonia" to represent acute respiratory diseases, and the word "enteritis" to represent acute gastro-intestinal diseases.

I learned from these charts the following facts for Berlin: The prevalence of pneumonia depends, as at Chicago and San Francisco, on anticyclonic weather, summer and winter, and not on sunshine, temperature, or relative humidity.

The period of lowest mortality from pneumonia is always synchronous with relative absence of anticyclonic weather and with the appearance and development of enteritis epidemics.

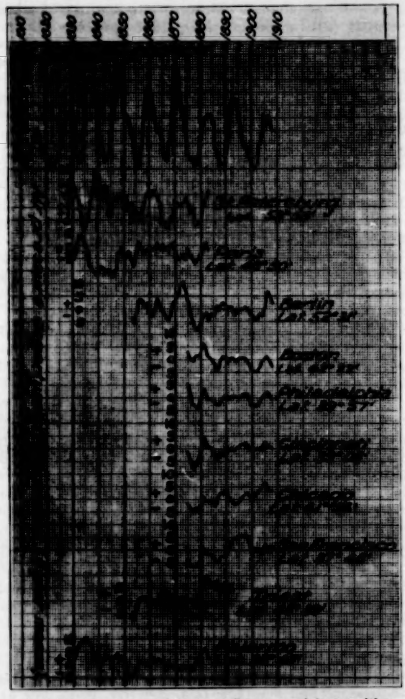


Chart 2.—Air-pressure departures from normal in ten cities.

Enteritis and cholera infantum epidemics (under 1 year) at Berlin do not last many weeks. They generally have a rapid rise and fall. They either precede the period of lowest air-pressure during the summer for a few weeks, or more often are simultaneous with it.

Cholera infantum figures (under 1 year) in these epidemics, represent uniformly about 60 per cent. of the total number of enteritis cases.

The United States Census Mortality Report for 1908 gives a ratio of 80 to 85 per cent. of deaths from enteritis and diarrhea to children under 2 years in the United States. Convulsions under 5 years would add 1 to 2 per cent. to this figure. The Chicago figures include "convulsions" since 1908.

This group of gastro-intestinal diseases at Berlin appears in an epidemic form during the periods of the extreme heat of the summer, but not in proportion to the extent, or to any distinct quality of such periods. Positive or negative departure from normal temperature during the twenty-four summers does not modify their appearance in a fundamental way. The amount of sunshine and the degree of relative humidity possess no causal relation; but an absence of anticyclonic weather is very conspicuous during such an epidemic.

San Francisco is practically immune from cholera infantum and from enteritis epidemics in general. The high summer heat is wanting here, but whenever periods of extreme heat have occurred, they were not followed by a prevalence of enteritis. However, we find during a San Francisco summer a relatively high air-pressure condition, very different from the period of "low" observed at Chicago and Berlin. (For similar reasons San Francisco suffers more from pneumonia during the summer months, than the two cities named.)

The anticyclonic weather, of course, should not be judged merely by high pressure figures, but by the direction of wind as well, and this should indicate that the air in question is an outflow of an anticyclone. For it is more the quality of the air brought to us by an anticyclone than its numeric value that we consider.

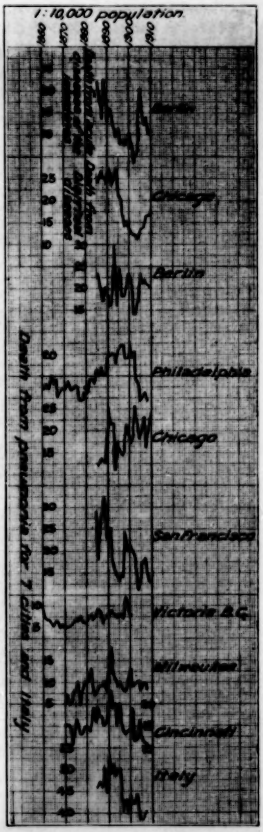


Chart 3.—Deaths from pneumonia in seven cities and Italy.

"It is not the absolute height of the barometer that is determinative in locating anticyclones, but rather the relative height of the barometer compared with that of the surrounding districts."[3]

For practical considerations, we may assume that air-pressure fluctuations of 20 to 30 mm. will not affect our organism materially, except its most elastic tissues—the lungs and the soft abdomen. A reduction of air-pressure

3. Symons, I. Hann: Meteor. Mag., April, 1911.

of 30 mm. signifies a loss of weight of 80 kilos on the abdominal surface.

A maximum of air-pressure brings at the same time the highest amount of oxygen into the lungs. It has been proved, experimentally, that an excess of oxygen inhaled may cause pneumonia.

Considering the importance of the quality of air we breathe under different atmospheric conditions, I directed the next step of my research to an inquiry into the influence of solar activity on weather conditions, principally on air-pressure fluctuations.

Chart 1 points out epidemics of pneumonia and enteritis by the monthly mortality figures of Berlin, Chicago and San Francisco. It will be recognized at once that the cities have their pneumonia epidemics during the same years or period of years and that especially the last sunspot period seems to cover a prevalence of pneumonia during its cycle.

On the same chart will be found the lines of periods of highest and lowest pneumonia mortality for Berlin, these lines indicating the average weekly mortality during such periods. These periods cover from one to five months at ever-changing parts of the seasons, but were always found to be in direct dependence on anticyclonic conditions.

The mortality figures are given as well at the scale of 1:10,000 population, to give proper estimate of the real mortality. Besides, there are the yearly departures from normal temperature and the yearly sunshine values for Berlin, the latter also for San Francisco.

The different scale for the hours of sunshine points to the fundamental difference between Berlin and San Francisco in this respect. All figures are generally for the twenty-four years ending December, 1910.

Chart 2 exhibits the direct dependence of air-pressure conditions on solar activity (judging from sunspot figures) for eighty years (1830-1911) more or less, and for the cities of St. Petersburg, Berlin, Paris, Triest and Palermo in Europe; Boston, Philadelphia, Cincinnati, Chicago and San Francisco in America.

F. H. Bigelow[4] says:

The response to a change in the solar energy, when recovered at the earth, is by no means simple. We are guided in this respect by the prominences and sunspots and we consider them as products of the outgoing radiant energy.

Sunspots have a varying period of from 11.1 years to 13.3 years. Besides, there is the constantly changing area of the sun, which is covered by spots. This area amounted to a minimum before the grip epidemics of 1835 and 1889.

On a purely mathematical basis, A. Schuster[5] found periods of solar activity that amount to 4.8, 8.4 and 11.1 years.

These periods may cover, as he says, a period of 33.4 years.

F. H. Bigelow adopts a 33-year mean and subdivides it by 3- to 4-year periods. He concludes that "the magnetic field variations (of our earth) are one result of the absorption of the incoming radiation in the earth's atmosphere and the temperature changes are another product of it, linked up with the circulation and thence with the barometric pressure and weather conditions generally."

I demonstrated this correlation of air-pressure and sunspot periods in 1892.[6]

Chart 3 proves to a certainty the simultaneous appearance of enteritis and pneumonia epidemics on our hemisphere.

The mortality figures are of the ratio of 1:10,000 population. They represent acute diseases of the respiratory organs at Berlin, pneumonia (all forms) at Chicago, pneumonia "lobar and unqualified" for 1900 to 1908 at Philadelphia, Milwaukee and Cincinnati (U. S. Census Reports) and "pneumonia," according to E. F. Wells,[7] for the years before 1900 at those three cities and at Victoria, B. C., and they represent bronchitis and pneumonia (all forms) for the kingdom of Italy and San Francisco. Although the figures are not homogeneous, still by far the largest percentage of them refers to acute pneumonia. The enteritis figures represent enteritis (all forms) and since 1908 also convulsions at Chicago and acute diseases of the intestines at Berlin.

The figures for New York, as given by L. Emmett Holt,[8] and those for San Francisco practically agree with those of Berlin and Chicago. The time covered by my tables comprises fifty years for Philadelphia, forty for Victoria and twenty-five years or more for the other cities and Italy.

The enteritis lines are surprisingly uniform. Berlin and Chicago show practically the same synchronism in the rise and fall of this mortality. A period of about sixteen years intervenes between the last and the present high figure.

The pneumonia lines show the peculiarities of latitude and of the locality of the district where the epidemics occur. Some of them show strikingly the prevalence of relatively high or low pressure at such districts.

Cincinnati has the highest sea level pressure (763.6 for the year) on this chart and the highest pneumonia mortality, while Victoria, with a pressure of 762.0, has a lower mortality in proportion.

Milwaukee and Boston in a similar way have a lower mortality than Chicago and Philadelphia. The high mortality of the colored race from pneumonia in southern states gains a different aspect when we consider the high pressure area in which they live. In general, we find the lines of pneumonia mortality on the northern hemisphere to follow almost precisely the barometric gradients. This relation becomes qualified apparently by the solar activity existing during, or preceding, anticyclonic weather. For instance, we know from history, that from 1831 to 1835 there swept over our hemisphere a very great epidemic of grip and pneumonia—the greatest of that century before 1889—and we find then the highest air-pressure of that period registered at a time, when solar activity was lowest. The appearance of the 1889-90 epidemic was again heralded by abnormally high air-pressure and very low solar activity, while low air-pressure we find to be the rule during low solar activity.

Such exceptions seem to be determining factors and should be carefully considered in reference to the problem before us. For the present, we simply record the very uniform increase of pneumonia mortality in cycles, that remind us at once of the three to four years or longer solar periods. The greater prevalence of enteritis seems to be linked to epochs of even longer periods.

I wish to call your attention now to some of the most recent work in reference to the question before us.

Physicists[9] have brought out the facts that the circulating atmosphere—the cloud zone—ends at about six

4. Bigelow, F. H.: Am. Jour. Sc., August, 1910.
5. Schuster, A.: Proc. Roy. Soc., 1905, lxxvii.
6. Richter, C. M.: Meteor. Ztschr., August, 1892.
7. Wells, E. F.: THE JOURNAL A. M. A., Feb. 4, 1905, p. 361.
8. Holt, L. Emmett: THE JOURNAL A. M. A., Feb. 26, 1910, p. 682.
9. Wegener, A.: Beitr. z. Phys. d. Atmosph., June, 1910.

V. 5
1911

miles height; oxygen, diminishing gradually in its percentage of the atmosphere, cannot be found at about forty-five miles height; nitrogen, increasing first to twenty-one miles, then diminishing rather rapidly, ends at about fifty miles height. Oxygen and nitrogen are then superseded by hydrogen. The amount of hydrogen and argon near the surface of earth is still a matter of controversy.

Two kinds of polar lights are seen in this atmosphere at a height of about thirty-six and about three hundred miles respectively. They represent the cathode rays, coming from the sun and deflected by the magnetic field of the earth. They appear in cycles which follow quite accurately those of the sunspots, both having their maxima often in the same year and their minima likewise. Only seldom a difference of one to three years is recorded. A certain dependence of air-pressure conditions on polar lights seems established in the vicinity of the latter.

Further investigation[10] proves that "the total amount of violet and ultra-violet in the solar radiation changes from time to time—a change in the relative intensity of the violet seems definitely established—and it seems quite probable that this intensity must be least at the time of maximum sunspot disturbance."

In regard to violet and ultra-violet radiation it seems important that "ozone is produced by the action of ultra-violet light on cold dry oxygen." "The amount of ozone in the outer atmosphere must, therefore, vary with the amount of ultra-violet radiation sent out by the sun."

"When this ultra-violet solar radiation is at a minimum, presumably during a sunspot maximum, the amount of ozone in the upper layers of the atmosphere will be a minimum, unless maintained by some other process (auroral discharges).

"On the other hand, with a maximum of ultra-violet radiation, presumably during a sunspot minimum, there will be a maximum amount of ozone."

Humphreys furthermore claims that auroral displays which exist inside the oxygen level must be accompanied by production of ozone. He adds:

> The equator-to-pole circulation of the upper atmosphere and the paralleling of magnetic lines of force by auroral discharges might well lead to a greater amount of ozone in the upper air of temperate and polar regions than in those of the tropics. . . .
>
> The amount of ozone in the atmosphere, since it results from the action both of auroral discharges and ultra-violet radiation, that seem to increase and decrease oppositely, *though not necessarily equally*, tends to remain more or less fixed.

But it is the exception to the rule that may bring disaster.

In conclusion, we may assume that since the periods of solar activity, of auroral discharges and of air-pressure conditions are so closely interwoven with one another and with ultra-violet radiation and the periodic appearance of the epidemics in question, it is of the utmost importance to renew the critical analysis of the air during different air-pressure conditions and at different parts of our hemisphere.

Research should be directed, for instance, to the amount of water contained in the atmosphere surrounding us, to resulting electrical conditions and to the effect of such agencies and of solar radiation on the mucous membrane and the body.

1102 Taylor Street.

10. Humphreys, W. J.: Solar Disturbances and Terrestrial Temperatures, Astrophys. Jour., September, 1910.

AN UNUSUAL CASE OF GUNSHOT WOUND OF THE ARM: RECOVERY

GEORGE A. SKINNER, M.D.
Major, Medical Corps, U. S. Army
FT. D. A. RUSSELL, WYO.

History.—On the morning of Sept. 3, 1910, a lad of 13 years accompanied by another about his own age, each armed with a shotgun, started hunting at a small lake near Fort Russell, Wyo. To get a better view of the surface of the lake and surroundings, the first-mentioned boy climbed on an ice chute platform, some 6 feet off the ground. This platform was constructed of planks 2 by 12 inches, with 2-inch spaces, except in one place, where part of a plank was broken out about 3 inches wide and 3 feet long. While intent on looking for ducks, the boy unconsciously let the gun slip from his hands; it fell through the hole caused by the broken plank, and in falling, the hammer struck on the boy's instep and the gun was discharged. The entire load of No. 4 shot passed

Fig. 1.—Extensive wounds of the arm and forearm and some of the details of the fixation apparatus described.

along his left forearm and into the arm about midway between the shoulder and elbow. The boy had the presence of mind to hold the arm tight above the wound with his other hand, and saying to his companion "I'm shot," succeeded in some way in getting off the platform and started toward the hospital, about a mile distant from the lake. Becoming too weak he lay down behind a pile of gravel to keep out the wind, while his companion, assisted by another boy whom he met, continued the run to the hospital. One of the surgeons with the ambulance brought the injured boy in. When first seen by me the lad was in profound shock and nearly exsanguinated.

Examination.—Examination of the wounded limb showed that the charge of shot had passed along the anterior surface of the left forearm, removing skin and superficial structures down to and including part of the superficial tendons. It then passed on, for the arm was apparently flexed, and entered the arm at almost its middle portion anteriorly, slightly to the external side, tore away the whole of the outer head and belly of the biceps and part of the inner, a portion of the

lower end of the deltoid, and broke the humerus squarely across. The brachial artery was seen pulsating and was fully exposed to view, but was uninjured.

At first sight the case looked hopeless as far as saving the arm was concerned, and the boy's life was likewise in grave danger. He was removed as rapidly as possible to the operating-room, transfused with saline solution, and the arm cleaned up and put in a temporary dressing to await reaction. This came more promptly than one had reason to expect, and hopeless as the prospects of saving the arm seemed to be, conservative measures were decided on. The boy was splendidly built, strong and active, so that with youth and constitution in his favor, it seemed well worth the effort.

Two days later the lad was again taken to the operating-room, anesthetized, the sloughing portions of muscle removed, the bone placed in as good position as possible and further developments awaited. There was a severe infection of the wound, which necessitated daily dressing. This was largely controlled in a few days, and as there was now no question about the life of the boy, except from some unforeseen accident, and as the circulation was excellent, the question of applying some permanent fixation, which should at the same time allow dressing of the large wound, became an acute one. Moreover, there was necrosis at the ends of the fragments, which demanded attention. September 14, the following operation was performed:

Operation.—A piece of calf femur was obtained, turned true in a lathe, so that it was about half an inch greater in diameter than the broken humerus. This was then sawed in half

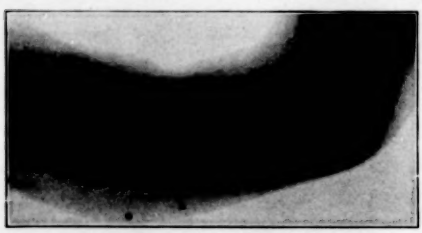


Fig. 2.—Radiograph of the arm showing the location of the fractures, with the half of the bone collar still in place, and the numerous shot still embedded in the muscles and tissues of the arm and forearm.

longitudinally and the inside reamed out with a file until it was about the same size as the humerus; in other words, a bone collar 2½ inches long and of a size to just fit around the humerus was prepared. This was grooved at either end to keep the wires from slipping, and several holes drilled in it to save time if they should be required. Then several bone pegs about the size of the medullary canal were turned and a number of bone nails prepared. The idea was to do a resection of the bone, put a medullary peg in the canal, then cut a step out of either end of the fragments, fix with bone nails, place the bone collar in position around the whole and wire or nail it into position. The bone was broken so nearly square off that it was impossible to keep it in position with the weight of the lower arm and forearm constantly tending to throw it out. The resection was made and the ends secured by two bone nails, after placing the bone peg, about 2 inches long, in the medullary canal. The collar was placed around the bone at the point of resection and securely wired into position by placing the wires around the collar in the grooves mentioned. This resulted in a fairly firm fixation. About 2 inches of shortening resulted, which made it possible to bring the torn ends of the inner portion of the biceps together and approximate some portions of the outer part. These unions made an appreciable decrease in the size of the wound, which was still large though fairly clean. The uncovered surfaces were skin-grafted, both arm and forearm. The next question was a fixation dressing, and this taxed the patience and ingenuity more than any other part of the treatment. After a number of failures the following device worked successfully, and was worn continuously for about four months:

A heavy plaster cast was placed around the body from the crests of the ilia to the axillæ. In this cast were embedded two sheet-iron plates, about 4 by 6 inches, each having in its center, firmly fixed, a quarter-inch iron pipe with a set-screw at its outer end. These two plates were bent to the form of the body and placed in such a position that one pipe, about 2½ inches long, pointed at the elbow, and the other, about 8 inches long, pointed to the hand, when the arm was slightly in advance of a parallel position to the body, and the forearm flexed at a right angle. A leather shoulder-cap was then fitted from a plaster cast of the shoulder of another boy of almost the same size, and to the back of this cap an iron strap, three-fourths of an inch wide by one-eighth of an inch thick, was firmly attached. This strap-iron was bent at a right angle and at the elbow bend a rod was welded in position to fit the short pipe embedded in the cast. There was also at the bend an offset in the arc of a small circle sufficient to clear the point of the elbow. At the bend a strap was riveted to buckle around the elbow. At the distal end another strap, but considerably wider, was fixed to buckle around and hold the wrist in position. In the long pipe was placed another rod, which had at the end a curved piece of sheet-iron, over which the flexed hand could rest (Fig. 1). From the leather shoulder-cap a strap extended around the body under the right arm and buckled to the cap in front. The cast was supported from the shoulders by bandages, in the manner of ordinary suspenders. This method of support was successful beyond our expectations, for it held the arm firmly in position, yet gave an opportunity to dress the large wound of the arm and forearm, which still required daily attention to control the infection.

Postoperative History.—The wounds began to heal rapidly. The first grafting was but partially successful, so on three subsequent occasions skin-grafting was done, the grafts being taken from the arms of the boy's father and two friends. It was exceedingly difficult to make grafts hold on the forearm on account of the exposed tendons, but by repeating the process, and always without anesthesia, a very satisfactory result was obtained and both wounds were closed, with the exception of a sinus that persisted at the site of the fracture.

A radiograph taken at this time showed that the bone collar was partly out of position, and it was determined to remove it, as the irritation of the foreign body in the medullary canal and around the bone might be the cause of the sinus, and a fairly good callus had formed, so that it was regarded as a safe procedure. Nov. 22, 1910, this operation was undertaken, and the anterior half of the collar, together with the medullary peg, removed without difficulty. But the posterior half of the collar was so firmly embedded in callus that it could not be disturbed in the slightest without danger of fracturing the bone again, so it was left in position (Fig. 2). The splint was reapplied, and a light cast used around the forearm and posterior portion of the arm to add stability. The position of the arm was somewhat altered at frequent intervals, by means of the adjustment of rod and pipe mentioned above.

The operation had the desired result and the sinus closed. Later it opened again and persisted at intervals for some months, but apparently did little damage. The function of the hand had been partly maintained for some time by passive motion.

Early in January, 1911, the radiograph showed so strong a callus that it was determined to remove the splint and cast and depend on a sling and ordinary light posterior and lateral splints for the arm, leaving the forearm and shoulder free to functionate. The whole retentive apparatus was taken off Jan. 4, 1911. Motion quickly returned to the shoulder-joint and more gradually at the elbow and wrist. The hand was still stiff, and complete function was almost despaired of, but passive motion was continued and the boy encouraged to use it in every possible way. Flexion of the forearm was necessarily weak, as so much of the biceps was lost; and on account of contraction of the scar, extension was not complete.

V. 5
1911

At this stage I was necessarily absent from the post about four months, but on return found the boy with perfect use of the hand, the arm well filled out and quite strong and all the functions of the limb restored except complete extension, which is still slightly interfered with (Fig. 3). The lad now, ten months after injury, plays on the juvenile ball team, rides his bicycle, and even drives his father's large touring car. The arm is not so strong as its mate, and there is about 2 inches of shortening, but aside from these defects, the fact that he was injured is scarcely noticeable. There are still some forty-two-shot in the arm, which show clearly in the radiograph (Fig. 2).

Fig. 3.—End-results of conservative treatment of an extensive gunshot injury to the arm and forearm. Note the extension of the elbow is not quite complete.

The results in this case are beyond all expectations. The best that was hoped for was a limb that might be more useful than an artificial one, with perhaps fair function of the hand. But as the case advanced it became evident that if the bone could be caused to unite, there would be a fair result. This union followed, and the final result is as outlined above with still good prospects of increase in the power of the arm.

The case illustrates forcibly the power of repair in the young, and the value of conservative methods, even though the time consumed is considerable. The progress of such a case is necessarily slow, but it is apparently not safe to predict that there is no use trying to save a limb until a protracted effort has been made.

STRANGULATED APPENDIX IN A FEMORAL HERNIA

PAUL OLIVER, M.D.
Instructor in Surgery, Rush Medical College
CHICAGO

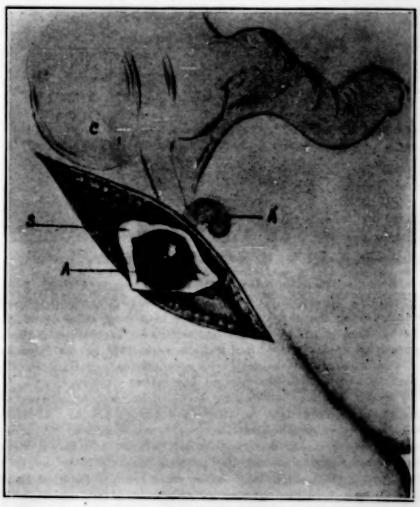
The following case is believed of sufficient interest and rarity to be reported.

Patient.—Mrs. S., aged 45, a farmer's wife, began to experience pain in the lower umbilical region about 3 p. m., July 4. The pain growing steadily worse, Dr. W. A. Potts of Lansing, Ill., was called at 3 a. m., July 5. On examination he found a hard, tender lump in the right groin, which had not been previously noticed by the patient. Gentle taxis, which was tried for a few minutes, was extremely painful and without success. She vomited for the first and only time about 3:30 a. m., the vomitus consisting of water taken a short time previously. The bowels had not moved and no flatus had passed for twenty-four hours, although several attempts to have them move had been made July 4. The bowels had always been regular until this time. An enema at 9 a. m., July 5, gave good results and rendered the pain less severe.

History.—Patient stated further that ten years ago a painless lump appeared in the right groin while lifting an invalid mother. This disappeared in a few days. The swelling came out and reduced spontaneously during the next nine years at frequent intervals, never causing disagreeable symptoms, and little attention was given to it. During the past year it had been entirely absent. Patient is the mother of five healthy children and has had one miscarriage. History is otherwise negative. She was brought to the Hammond Hospital and I saw her in the evening, July 5, about twenty-eight hours after the onset.

Examination.—Patient was a middle-aged woman, with normal facies, admitting some abdominal pain on questioning. The temperature was 100.2 and the pulse 84. The abdomen was not distended and only moderately tympanitic. There was slight tenderness just above the umbilicus on deep pressure. No free fluid and no mass could be made out. A rounded swelling about the size of a bantam's egg was present in the right groin just below the inner part of Poupart's ligament. There was slight redness of the skin over it. The mass was tender to gentle palpation and semi-solid in consistency. There was no fluctuation and percussion elicited a flat note.

Operation.—An immediate operation was decided on and under ether anesthesia a 3-inch incision was made over the swelling parallel to Poupart's ligament. The tumor was isolated and a mass of fatty tissue dissected away, revealing a black shiny mass about the size of the end of the thumb. After some difficulty, the sac was opened on the outer side, revealing what appeared to be gangrenous wall of the small bowel. A fetid odor was noticed and a few drops of dark serum were present in the sac. Gimbernat's ligament was incised and the constriction at the neck of the sac stretched.



Strangulated appendix in a femoral hernia. C, cecum; S, sac; A, strangulated two inches of appendix; A', tip of appendix inside abdomen.

After separating the fibrinous adhesions which bound the sac and bowel together, the latter showed a tendency to retract inside the abdomen. Traction unfolded a gangrenous appendix, the tip and proximal end of which were inside the abdominal cavity. The appendix was about 4 inches in length, the distal 3 inches being gangrenous but not perforated. There was retrograde strangulation of the tip, the hernial sac containing only the kinked middle 2 inches of the appendix. After enlarging the opening, excision of the appendix with ligation and invagination of the stump with two purse-string sutures was done. The lower abdominal cavity was irrigated with normal

salt solution and the sac ligated and excised. The hernial opening and wound were closed as usual and without drainage.

Course.—The postoperative history was uneventful. Temperature on evening of the first day went to 101.2 and after the third day remained normal. The wound healed by primary intention.

Although it is rare for the appendix to be found alone and strangulated in a femoral hernia, several such cases have been recorded in the surgical literature. The symptoms in most cases were not severe, but in each case there was present a tender irreducible femoral hernia. In a few there were symptoms suggestive of an intestinal obstruction.

404 South Ashland Boulevard.

HABITUAL EPIGASTRIC PROTRUSION

ANTHONY BASSLER, M.D.
Visiting Gastro-Enterologist, Peoples Hospital; Chief Gastro-Enterologist, German Poliklinik
NEW YORK

The following case is of interest for the reason that a careful search of the literature in the library of the New York Academy of Medicine did not depict one like it, and I have not heard one described. The condition may be designated as an abdominal wall-diaphragm habit, which had developed into a form of motor neurosis.

Fig. 1.—Marked epigastric protrusion.

Patient.—(Case referred by Dr. Neil O. Fitch, Astoria, Long Island) G. M., aged 17, seen July 27, 1911; is a high school pupil during the day and apprentice in a drug store evenings. Father died of apoplexy, mother well, two brothers and three sisters all well. Patient had measles as a child, several attacks of simple catarrhal colds, history otherwise negative; habits good, excepting that the patient ate rather heavily.

Present History.—Beginning in his childhood, he contracted his abdomen from time to time as a boyish prank. At first, the bulging of the epigastrium was rather difficult to bring about, taking much longer than at present and not always being accomplished when the patient wanted it to be. Of late years, he could do this much more easily, exhibited it to his friends, until he became considerably talked about, and now at times the condition came on involuntarily (even when he made an effort to control it) so that each day he would have a number of seizures. Two years ago he began suffering with headaches, constipation, and much belching of gas following the meals, coming on at once or up to fifteen minutes afterward. During this time he has had more or less after-meal distress in the stomach, particularly when he partook heavily of sweets. He has increased appetite for foods; sleeps well; has gained considerably in weight during the last year.

Examination.—Well-nourished boy of good muscular development. Heart, lungs, urine, blood, etc., normal. Marked splash in stomach, organ somewhat relaxed but not enlarged or ptosed. Left lobe of liver freely palpable and margin low, although right lobe could not be felt and upper border was in normal position. In repose, there was a slight transverse fullness in the upper abdomen which seemed to be due to the prominence of the left lobe of the liver and a general tissue condition. During the examination, a contraction came on. It began with a slight inspiration and a fixing of the diaphragm in that position, followed by a contraction of the abdominal muscles below the transverse navel line without any noticeable bulging of the epigastrium. The patient then seemed to fix the lower abdominal muscles, slightly exhaled, and then took a deep inspiration, at which the descended diaphragm working against the contracted abdomen below and an accompanying relaxation of the abdominal muscles above the transverse navel line caused the liver (left lobe) and a portion of the stomach to protrude forward and make up the pouch.

The prominence of the liver when the abdomen was in repose was due to a twisting forward of the organ, which had become considerably set in that deformity from the constant malformations of the organ during the seizures.

Treatment.—The treatment advised was a cessation of the habit, an anticonstipation diet, and 5 drops of tincture of nux vomica, three times a day, to correct the slight degree of gastric atony.

126 East Sixtieth Street.

EXPERIENCE WITH ALBUMIN MILK*

JULES M. BRADY, M.D.
Assistant Professor of Diseases of Children, St. Louis University
ST. LOUIS

In the early part of 1910, Finkelstein and Meyer[1] first published their results with *Eiweissmilch*, or, as it has come to be known in this country, albumin milk. Their cases numbered over 170 and their results were so good that others were led to employ the milk. Chapin[2] administered this food to twenty infants and had twelve deaths, certainly not a very good showing. Braunmiller[3] also, was disappointed with his results. My early experiences with the food were very discouraging.

Finkelstein, in explanation of these poor results, asserted that either the food was improperly prepared, or the technic of administration was incorrect. He found that the composition of the food, as prepared in his hospital, varied from day to day; this led him to have the food prepared in a laboratory. It is put up in cans much like our condensed milk; I made an effort to secure a supply of this canned *Eiweissmilch*, but was unsuccessful. Welde[4] administered this food to sixty infants and was highly pleased with his results; his experience in every way corroborates the reports from the Berlin asylum.

In a later article, Finkelstein[5] modified very much his original instructions, in regard to the addition of carbohydrates. With increasing experience he has found that it is not necessary to be so cautious, with the addition of the sugars. At the present time, I believe my poor results, in the beginning, were due in part to an improper preparation of the food, but chiefly to the fact that the carbohydrates were not increased rapidly enough. My experience emphasizes how absolutely necessary the carbohydrates are for the infant's organism. If the carbohydrates are kept out of the diet for any length of time there is a rapid pouring out from the cells of the body of salts and water, with rapid drop in weight, and death of the patient.

* From the Pediatric Department, St. Louis University.

1. Finkelstein and Meyer: Jahrb. f. Kinderh., 1910, lxxi, 655; ibid 683.
2. Chapin: THE JOURNAL A. M. A., Oct. 22, 1910, p. 1455.
3. Braunmiller: München. med. Wchnschr., 1910, No. 50.
4. Welde: Therap. Monatschr., 1911, xxv, 83.
5. Finkelstein and Meyer: München. med. Wchnschr., 1911, lvii, 340.

V. 5
1911

The classification of the nutritive disturbances for which this food is indicated, as given by Finkelstein, is as follows: dyspepsia, decomposition, intoxication, parenteral infection (Czerney and Keller). The dyspepsia is characterized by acute gastro-intestinal symptoms, that is, vomiting and diarrhea. The stools are thin and often green. The baby does not seem very sick, and there is very little loss of weight. There is a slight rise of temperature. Stopping of all food, with a gradual return of feeding, brings about recovery.

DISTURBANCES DUE TO FOOD

Decomposition (marasmus) is a severe nutritive disturbance. In this condition, the giving of food not only does not cause an increase of weight, but results in a rapid decrease of weight, accompanied by a severe alteration of the general condition of the baby. The powers of assimilation of the infant are so reduced that the administration of nourishment, even far under the bare necessities of the body, causes a severe reaction. The temperature is subnormal; pulse, slow; respiration, irregular. The stools in this condition vary, depending on the nature of the food. A normal-appearing stool may be encountered, but as a rule there is an alteration in the quality and quantity of the bowel discharges.

Intoxication, considered by American and English authors under the caption of enterocolitis and cholera infantum, is ushered in by stormy symptoms. Disturbances of consciousness, characteristic alteration in breathing, alimentary glycosuria, fever, collapse, diarrhea, leukocytosis, albuminuria and casts, and decrease in weight are characteristic of this symptom-complex. The collapse and nervous symptoms are more pronounced than those from the gastro-intestinal tract. This condition, long regarded as the result of bacteria, is due to the food itself. The offending element is the lactose, the fat only becoming so secondarily, the casein being entirely harmless.

PARENTERAL INFECTION

In contradistinction to the above nutritive disturbances which are *ex alimentatione*, must also be considered those which are *ex infectione*. As a result of the various infections, the powers of assimilation of the infant may be so damaged that a nutritive disturbance arises. In all of the above conditions Finkelstein has had excellent results with albumin milk.

From present methods of treatment we can say that in dyspepsia and intoxication (enteric catarrh), rational treatment is usually followed by recovery. In decomposition (marasmus), under artificial feeding, the infants in the large percentage of cases succumb. In parenteral infections of a severe nature, we all know how serious the outlook will be if the infant must depend on artificial feeding.

In giving a summary of Finkelstein's results with albumin milk, one must say that they approach very near the good results of breast-milk in these various conditions.

In June this year, I again began the use of this food; on account of my early poor results I felt justified in selecting only the hopeless cases for trial. The results obtained have been little short of brilliant; infants similar to those which formerly invariably died without breast-milk have been restored to health.

Albumin milk is prepared as follows: One tablespoonful of essence of pepsin, or a rennet tablet, is added to a quart of milk which is warmed to 100 F. After fifteen minutes the milk is well curdled; the whey is then poured off. The curds are placed in a muslin bag and allowed to drip two hours. The curds are then gently mashed through a hair sieve, twelve to fifteen times; at the same time one pint of boiled water is poured through the sieve. Then one pint of buttermilk is added. As recently emphasized by Brennemann,[6] first boiling the milk facilitates the passage of the curd through the sieve. I have always prepared the buttermilk by inoculating the fresh milk with a twenty-four-hour old milk culture. I have been using the same culture for the past four years. The start was made with tablets of lactic acid bacilli. After the inoculated milk has stood twenty-four hours it is churned or simply beaten with an egg-beater.

It is extremely important that a hair sieve be employed; metal and wire sieves found in homes will not do. The mixture is then ready for the addition of the carbohydrates. Maltose is preferred and may be added, up to 7 per cent.; if this does not bring about an increase of weight, particularly if the baby is over 3 months old, 2 per cent. of flour is also added, which must be first cooked twenty minutes with a little water. The composition of albumin milk is proteid, 3 per cent.; fat, 2.5 per cent.; mineral salts, 0.4 per cent.; carbohydrates, lactose, 1.5 per cent., plus the percentage of maltose and flour added. We have been able at St. Ann's Hospital to prepare a very beautiful appearing mixture. On standing a sediment falls to the bottom of the bottle, but on agitation the mixture becomes homogeneous. The percentage of the various elements of the food naturally will vary slightly from day to day, but this, in my experience, is of no moment. Now that we have mastered the technic of its preparation, we no longer crave the canned product. Owing to the fact that physicians in the beginning will have trouble in the proper preparation of this food, a laboratory for making this milk would be of great service.

Hair sieve and three bottles of *Eiweissmilch*. The two bottles to the left were well shaken prior to the taking of the picture. The third bottle, on the right, shows the sediment of finely divided casein, after having stood two hours. The bottle on the extreme left has had added to it 6 per cent. of malted food and 1.5 per cent. of wheat flour.

I have administered this food to twenty infants; eighteen were nutritional disorders and two were cases of diarrhea. Both cases of diarrhea were private patients; one infant, aged 12 months, with diarrhea, resisted all the usual methods of treatment and was rapidly losing weight. As a last resort albumin milk was prescribed, which brought about a rapid recovery. In the other case of diarrhea, the infant showed signs of improvement, but after six days the mother stopped the milk. Mothers are bound to be prejudiced against

6. Brennemann: Am. Jour. Dis. Chil., 1911, i, 341.

this food, as it is so different from what in the past they have been taught to feed. It has an unpleasant sweetish-bitter taste; young infants take it well, but for older infants it is frequently necessary to add 1 grain of saccharin to a quart of the mixture. The other eighteen infants were inmates of St. Ann's Hospital; six patients had marasmus (decomposition), the other twelve were in various stages of malnutrition and would not gain in weight. One marantic infant, aged 3 months, weight 6 pounds, died after receiving the milk four weeks. During this period the infant gained 6 ounces; death occurred suddenly at night. In one case an infant, aged 2½ months, weight 7 pounds and 6 ounces, after twelve weeks had gained but 16 ounces. Modified milk was then ordered, and the further course was satisfactory. In all the other cases the results have been very good; in the five cases of marasmus the results could be called excellent. This food would seem to be especially indicated in diarrhea. I have not had an opportunity of giving it a fair trial in this condition. The past three summers at St. Ann's we have had no diarrhea; this seems remarkable in view of the fact that we constantly have between 120 and 130 infants in our wards; furthermore, the last summer was extremely hot, and diarrheas were very prevalent in private practice. Finkelstein believes his albumin milk is an efficient prophylactic for diarrhea in young infants. I attribute our freedom from diarrheas to the fact that the young infants at St. Ann's receive largely acidified milk.[7] It will be noted above that one-half of the albumin milk is acidified milk.

As is well known, marantic babies, when fed breast-milk, require a prolonged stage of repair before the upward increase of weight begins. This is not so in albumin-milk feeding; if the percentage of carbohydrate is high enough, the weight starts right up. All our babies eventually received flour in their mixture; this is necessary as the malt sugar alone does not seem capable of advancing the weight. Following a suggestion of Dr. Kerley, I have used dextrinized flour in three cases with good results, in place of the ordinary wheat flour. It is after the third month that the addition of flour is advisable.

In regard to the amount of milk to be fed, Finkelstein advises a gradual increase of the food from 10 ounces in twenty-four hours, up to 7 to 8 ounces to each 2.2 pounds of the babies' weight. Not more than a quart a day, however, is to be fed. In my cases I have ordered the amount to be fed very much as I would order the quantity of modified milk for each feeding. In other words, the gastric capacity would serve as a guide.

In malnutrition there is special danger from underfeeding and this is the reason, I believe, that such poor results were obtained in the beginning, and probably other physicians can attribute their unfavorable results to this score. I have learned now to add the malt-sugar at once and increase it right up to 7 per cent. if necessary. In diarrhea in the beginning, Finkelstein orders small amounts, say 2 or 3 ounces the first day; gradually this is increased and after four to six days the sugar is gradually added. This treatment must be preceded by a tea diet for twelve to twenty-four hours. Great care must be taken to add sugar fast enough, so as not to endanger the baby from inanition. Albumin milk alone, without the addition of carbohydrates, will not keep a baby alive a great length of time. The addition of the proper amount of carbohydrates is one of the most important steps in the successful feeding of albumin milk. After two or three months' administration of this food, the infant can be returned to the usual milk mixtures.

This series of twenty cases, with favorable results in seventeen, while speaking much for the method is of course entirely too small a number on which to base a definite opinion. Taken in conjunction with the large number of favorable results in the German clinics, however, it would seem that the task of coping with these difficult feeding cases in the future will be much lessened. Welde states that in his home, especially for seriously sick infants, he could not dispense with albumin milk; and, no doubt, especially for infant asylums this food promises much. The main objection to the food is the expense, for it requires one quart whole milk, one pint skim milk, and 3 to 4 ounces of a malted food for a day's supply; furthermore, mothers would have a natural prejudice to such a mixture and the trouble in preparing it.

In conclusion we may ask what is the rationale of this feeding, and how does it bring about its good results? It is noticed that an effort is made to have the milk-sugar as low as possible, as this is regarded as the chief offending element, giving rise to fermentative changes in the bowels. Therefore, the whey which contains the lactose is removed as much as possible; the buttermilk which is added also contains a low lactose percentage. An average percentage of fat (2.50), is fed as the fat itself only takes part secondarily, in the acid fermentation, if the fermentation of the milk sugar has already begun. The high proteid diet counteracts fermentative changes, and allows a very high carbohydrate percentage to be fed. Clinical results seem to prove the incorrectness of the belief that high proteid feeding injures the organism by the excessive demand made on the metabolism of the infant, particularly the kidneys. It appears that the reason that we can cause a gain in weight so rapidly in these run-down infants is the fact that we can incorporate in the mixture such a large carbohydrate percentage, without causing an intoxication. The prevention of the development of the intoxication is due to the high percentage of proteid, and low percentage of lactose and mineral salts. Some of my mixtures would yield a total carbohydrate percentage of 9 per cent. Malt-sugar is selected as being the easiest absorbed and the best tolerated by the infant's organism.

1467 Union Avenue.

7. Brady: Arch. Pediat., June, 1910.

Therapeutics of Regional Pain.—The therapeutics of regional pain revolves around the diagnosis, writes D. G. W. Sims in *Bull. Bexar Co.* (Tex.) *Med. Soc.* Once the diagnosis is made positive or probable, then the measures adopted for temporary or permanent relief are modified by age, sex and condition of the patient and by intentions as to future treatment. Epsom salts combined with sodium chlorid in dram doses may be used in acute indigestion, followed or preceded by morphin or hyoscin (scopolamin). Sodium chlorid in dram doses given in cold water, repeated if necessary, is effective for the relief of various colics due to fermentative or putrefactive causes, whether from vegetables, fruits or meats. Rest and removal of the obnoxious material is the object in all cases except those demanding surgical intervention. Rest is obtained by splints, strapping, pressure, heat, cold and drugs. The danger of masking symptoms by unwise attempts to relieve pain and the formation of drug habits in persons with chronic or reflex pains, should be kept in mind, and early operation is advocated in operative conditions if relief may thus be obtained. Pain unrelieved is a source of danger, causing shock, lowered vitality and actual increase of localized inflammations.

V. 5
1911

MULTIPLE NEURITIS WITH TWELFTH NERVE PARALYSIS

REPORT OF A CASE WITH RECOVERY *

ROBERT PERCY SMITH, M.D.
SEATTLE, WASH.

I am aware that the field covering multiple neuritis has been, from time to time, so thoroughly gone over and so carefully examined as to leave little to be found that is new—unless perchance, it be the causes producing the disease. This, however, is not my intent to discuss in this paper, but on the contrary to report an infrequent and comparatively new complication associated with the disease—which, in my experience and in all literature I have been able to find on the subject, is unusual in its occurrence, and therefore should interest all who practice neurology. The case I shall discuss is one of ordinary multiple neuritis (typical in character) plus paralysis of the hypoglossal nerve — that was admitted to the Maryland General Hospital, Baltimore, Sept. 27, 1906, when I was a member of that staff, and which was treated by me, assisted both in diagnosis and treatment by Dr. Charles G. Hill, who was chief in that department.

Patient.—The case was that of Mrs. B., aged 38, white, who reported never having had any illness except some uterine trouble twenty years before. About two months previous to the appearance of any symptoms she was taken with an acute and severe pain in the ovarian region, necessitating the assistance of a physician, who, when called, found a well-defined mass over the left ovary, with excessive pain on pressure, and temperature ranging from 101 to 103, which lasted about three days and disappeared as suddenly as it appeared. Since then, no evidence occurred except a slight tenderness remaining for several weeks over the site of the original mass, but not associated with temperature. About a month following, the patient noticed her feet getting stiff. This stiffness was associated with pains in the feet and legs which at times felt as if pins or needles were in them. In a few days she noticed difficulty in walking, and in getting on and off street cars. This was quickly followed by pains in the extremities similar to those of rheumatism, which soon confined her to bed. During this time she was unable to move any extremity except to make a slight movement of the right hand.

Examination.—She was sent to the hospital for treatment, and my examination of her on her admission revealed the following condition: A patient fairly well nourished, in an utterly helpless condition, lying with arms folded across abdomen, apparently in no pain, but showing evidences of great prostration. There was no impairment of muscles either of brow or eyes, no nystagmus or ptosis, the pupils were dilated and regular, both eye responses were normal, excepting the right being sluggish to light. The motor nerves of the upper lip were impaired, the lower lip was normal, the tongue markedly involved, as it lay in the floor of the mouth absolutely helpless, unable even to elevate the point or move in any direction, showing palsy of both the twelfth and fifth nerves. The gums were normal; there was no indication of blue lines, no escape of saliva. The chest was well developed, equally on both sides. The heart sounds were normal except for an anemic hum associated with the first sound. Both lungs were normal. The muscles of the forearms and the hands showed atrophy; the musculospirals on both sides were completely involved; the sensory nerves were apparently normal; tactile sensation was normal; there were areas of anesthesia over dorsal surface of right hand and forearm; hyperesthesia over the left forearm and both arms; the nerve trunks over both sides were painful to touch; biceps jerk was abolished; triceps on right side was diminished, on left side abolished. The wrist jerk on both sides was diminished. The abdomen was normal except for some tenderness below the border of the ribs on both sides. There was no involvement of the sphincters or bowels, nor any dribbling of urine. The patient had been unable to empty the bladder for two days, nor had she had a stool for the past three days. The muscles of the right leg were well nourished, the left leg was slightly atrophied. There was no foot drop present on either side. The nerve trunks of both legs were painful if touched. Tactile sensation was normal in both extremities; there were areas of anesthesia over the lower third of both extremities. Knee jerks were completely abolished. A general palsy seemed to exist, the muscles of the brow being the only ones not involved.

Recovery.—About two weeks after admission this patient was taken in before the class on a stretcher, in an absolutely helpless condition, unable to move scarcely a muscle except the brow, but February 3 (four months and six days after admission) she walked without assistance into the clinic, there being no symptoms remaining of her illness other than the reflexes still being absent. She was allowed to return to her home that afternoon, and I saw her no more for about six months, when she appeared in my private office and was only recognized by me after I had been told her name, having gained about thirty pounds since leaving the hospital. Her reflexes were not yet normal and did not return until about twelve months after her illness. The elbow jerks returned first, and the knee jerks about two years after her illness, there being no inconvenience or disturbance of any kind during her convalescence.

In passing hurriedly the cause of the case, I might mention the fact that the only history given by the patient was that a week or two previous to any symptoms she was out looking for berries among the wet grass and undergrowth, and on her return found she was thoroughly soaked to her waist and much chilled as the result. This factor, however, to my mind was not sufficient to produce this disease. It is possible, indeed, that it may have been conducive to the result, but the fact that wetness and coldness are mentioned in most text-books as a cause for multiple neuritis, does not appeal to me, unless there be other factors already present when the lowering of the vitality simply allows the absorption or distribution of the toxins. The question, then, of interest in this case regarding the etiology occurs in reference to the ovarian mass that occurred shortly after and preceding any symptoms of palsy. Was this an ovarian cyst—and did the mass break down from which sufficient bacteria were distributed to produce a toxemia and consequently multiple neuritis? This factor in the case might interest the gynecologist as well as the neurologist. Certain it is that something else was present besides the result of the exposure to wet and cold. One may have been the predisposing, and the other the exciting cause.

The case having been almost a typical one of multiple neuritis, there is little else to discuss other than the unusual complication of hypoglossal paralysis which, as before stated, I have never seen on any other occasion, nor concerning which have I been able to find any literature. I therefore assume the condition to occur at least infrequently. In Osler's "Modern Medicine," Dr. Gordon M. Holmes mentions the fact that "the functions of the cranial nerves are sometimes involved; lingual, palatal or pharyngeal palsies may develop in very severe cases when they are progressing to a fatal termination; laryngeal paralysis is very rare." He does not state which nerve he has found involved when mentioning the lingual palsies—whether it was the fifth or twelfth. We are all aware that the fifth is frequently seen involved in these cases, but the twelfth is not. For instance, we not infrequently see a bilateral facial palsy or an ocular paralysis; also a nystagmus or optic

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

neuritis. Various authors have reported in alcoholic neuritis the Argyll Robertson pupil, but nowhere do I find hypoglossal palsy referred to.

The twelfth nerve, as we are all aware, is purely motor in function, supplying both the extrinsic and intrinsic muscles of the tongue. The nucleus of origin of the axones of this nerve lies in the dorsal portion of the oblongata toward the lower portion of the fourth ventricle. Why then should this nerve not be more frequently involved in such an area where many other nerves become paralyzed? We are aware that it is a common affection in diseases involving the bulb, such as bulbar palsy, acute and chronic, also in the unilateral form in cerebral hemeplegia—but in such cases if the patient survives we find an atrophy of the tongue as a result, whereas in the case under discussion no such phenomenon occurred. Aneurysm of the vertebral artery and syphilitic processes, have been known to involve the nerve, as has an isolated neuritis in rare cases, but atrophy seems to have been a constant accompaniment of all such cases. Moreover, nearly all such palsies have been found to exist chiefly on one side, whereas in this case both nerves were involved from the fact that the tongue remained helpless and immovable in the floor of the mouth, and it was impossible for the patient to speak except in a most imperfect way. Mastication was impossible and deglutition was likewise interfered with for several days.

The fact then having been established that we had a complete paralysis of the hypoglossal nerve on both sides associated with a typical case of multiple neuritis, our next considerations are: what was the cause of this unusual occurrence, and why does it not occur more frequently? In answer to the first question, I suggest that the condition must have been produced by a poison in which infective microorganisms were evidently most virulent—in the presence of a derangement of normal metabolism. To the last question, viz.: why does it not occur more frequently? I am at a loss for a reply. I am compelled to leave this to be answered by others. If such can be done, the purpose of this article has been accomplished—for since I have had the case under my care no one has attempted to account for this fact, although it has been discussed with many of our most eminent neurologists and anatomists of this section as well as those on the Atlantic coast.

217 Cobb Building.

KORSAKOFF'S PSYCHOSIS AND THE AMNESIC SYMPTOM-COMPLEX

WITH A REPORT OF THREE CASES *

A. W. HOISHOLT, M.D.
STOCKTON, CAL.

Memory, as one of the mental faculties, varies with the endowment and degree of development in each individual human being. It reaches an acme of keenness at an age reputed to be about 40, after which it is said to be at a standstill, though some contend that it is even then undergoing a slow retrogression, recognizable in traces only for some decades, varying in different individuals and by no means always deserving Oslerism at the age of 60. Virchow's saying that one is as old as his arteries is perhaps the real criterion governing the state of one's memory as well as the state of youthfulness in general. The lapse of time is certainly not the deciding influence in all cases, as one meets with declining memory at the age of 50, and youthful memory at the age of 80. However, the majority of those arriving at the grand climacteric of man begin to face difficulties in remembering proper names and to confound technical terms. Still, of course, these difficulties seldom amount to a real senium præcox or early aging. This retrogression of memory, which might perhaps be called physiologic, first shows itself as an occasional loss of a word, but afterward becomes more general and it is then the events most recently experienced which the individual is unable to preserve, while he continues to be able to reproduce memory pictures from the past with great accuracy.

Finally, as senility becomes advanced, he frequently confounds places and persons, and fables about events which have never taken place; at last he will be observed to fill out the lacunæ in his memory with phantoms of his imagination, which in character reflect his helpless childishness. The enfeebled state of his memory is also evidenced by an increasing tendency to tell the same thing over and over again. At the same time, he shows confusion, roams about aimlessly, not recognizing his home or surroundings. In such extreme cases of senile decline we find manifestations which remind one of the elements which go to make up the so-called Korsakoff symptom-complex.

It is, of course, only very exceptionally that the recording faculty shows such defects that the impression is forgotten almost the next moment, that the individual feels more or less estranged at all times and confounds persons and places, and that he not only has a very poor memory, but also shows an inclination to fill up the many interstices in the same with fictitious dates, persons, places or events.

These defects, however, are at times so marked in the prematurely aged person that they constitute the four elementary factors of this symptom-complex, which are: (1) defective recording faculty; (2) enfeebled memory for events of the recent past; (3) disorientation; and (4) confabulation. The last-mentioned symptom bears a certain relationship to the mental vivacity, and where there is a high degree of amnesia, but with the retention of a coherent and attentive demeanor, the cases are more productive and the confabulations plainer. This is especially characteristic of the senile Korsakoff. When in cases of the senile or the alcoholic form the disorientation is well marked, one always finds pseudo-reminiscences, usually made up on the spur of the moment, as if in a way to bridge the memory-defects, for which reason Bonhoeffer calls them embarrassment-confabulations.

The patients, says Kraepelin, do not infrequently pass good judgment on things not directly connected with their memory-lacunæ and when recognizing the correctness of objections made, often with ready wit attempt to cover up the inconsistency of their stories, which sometimes reveal a marked delusional tinge and show an admixture of persecutory and grandiose ideas. At the same time, the manner in which they tell their stories seems to evidence that the confabulations appear to them to carry the stamp of complete subjective certainty, and they relate them as if they did not entertain the least doubt but that they were faithfully portraying the reality.

Tiling first drew attention to the fact that the senile form is usually started by fainting-spells and apoplectiform attacks, or the history shows an intercurrent period

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

of agitation—a delirium of apprehension. Bonhoeffer, in fact, says that he has never seen the amnesic symptom-complex develop in the way of a slow increase of the senile memory-defects without intercurrent acute symptoms. The prognosis of the senile Korsakoff is more unfavorable than the toxic form. Still, even when the amnesic state has lasted a long time, improvements have been met, especially when in such cases there has been a certain craving for activity and the whole picture has had a delirious tinge. Besides the usually pronounced emotionalness of the senile form (Wernicke's presbyophrenia) and the somatic symptoms of the senium, may in differentiation be mentioned the sleeplessness frequently met with, the anxious states of senile character and the search and trash-collecting deliriums. The senile form is usually grouped with the arteriosclerotic as, to a certain extent, the same pathologic changes are characteristic of both.

The first one of the three examples of the Korsakoff symptom-complex, which I have observed at the Stockton State Hospital, is an illustration of this senile form. This case is pathogenically interesting in showing a very slow, uninterrupted course of development of defects of the recording faculty, extending over a period of fourteen to fifteen years until, at the end of this period, the amnesic symptom-complex is complete demonstrating the course of a simple, chronic form. It is true that the patient suffered a slight trauma five years after the memory defects began to show themselves and nine or ten years before admission to the hospital, but the trauma was very slight, without cerebral symptoms, and did not lead to the development of a somnolent state frequently mixed with traces of delirium, which, as has been pointed out by Kaberlah, usually characterizes the symptom-complex following commotio cerebri, nor can I assume that the development of the syndrome was started by the acute intercurrence of a toxemia due to cystitis of which there is no history. The case observed is as follows:

CASE 1.—*Patient.*—S. M. K., native of Maryland, 76 years old, widower, had two living children, no history of neuropathy; he had worked as mailing clerk in the postoffices of Sacramento and San Francisco, was known to be an expert in his knowledge of the location of small stations and towns, being often employed to unravel the mistakes of others. The work was confining, from 3:30 to 5 a. m., returning at 7 a. m., and working until 5 p. m., with an hour's interval at noon for luncheon. He was also on duty three evenings of the week. This was done steadily with only one or two vacations for forty years.

History.—For about five years before he retired from the service, he began to make errors until toward the last he made very grave ones, sending letters to the wrong places, even well-known cities, and was finally asked to resign. He had always led a very regular life, had been throughout his life a total abstainer from the use of liquor but had always been extremely nervous. (Lues and gonorrhea denied.) Shortly after he had resigned, i. e., about nine or ten years before his admission to the asylum, he went east with his son on a pleasure trip, and on the first day of the trip left the car for a short time. As he returned, the car started up suddenly and he missed his hold in trying to mount the rear platform, being thrown to the ground, striking presumably on his back. The train stopped and he was assisted aboard. A letter from the son describing the occurrence states that the patient "was well able to walk, had no pain anywhere and in every way conducted himself as usual." On the following day, however, he had difficulty in passing water, which developed into a retention of urine, requiring catheterization for about two months before the functions were restored. He at no time showed a rise in temperature and the bladder did not appear to become affected. Soon after his return from the eastern trip, he gradually became restless, fidgety and peculiar—would buy large magnolia trees to send to eastern friends. As time went on, these peculiarities became worse; he would interview public men, proposing absurd ideas, such as removing the undertow from the river, etc.; would frequently get up in the middle of the night, dress himself fully and open the shutters, as was his custom in the morning. Although it was very dark, he did not appreciate the fact, not observing that he had to use artificial light. When asked why he got up he would say he had been called. He often accused his family of being tired of him and said that they wanted to put him away somewhere. His memory had been steadily deteriorating during the last fourteen years. He would forget names, spell incorrectly in his writing or leave out whole syllables. He would tell a story over and over again, forgetting that he had just recited it. He was somewhat subject to exalted ideas; thought money was left for him at various places; in his wanderings about the streets he would interview people concerning the wealth coming to him, not knowing to whom he was speaking and forgetting where he lived.

Examination.—When examined on his admission to the hospital, Aug. 21, 1903, he was found very good-natured—very anxious to go home. He was not cognizant of time and place; did not remember where he came from. He said that he had five children (he never had but two) and promptly gave their ages and names. He watched the exits every time the doors were opened, asking the same question: "May I go out with you? I want to go and see my family. I want to see my children—I have not seen them for fifty years." He entered into lively conversation with any strangers he happened to meet, took them to be people he knew, always promptly giving some fictitious name of the persons he was addressing and the name of the place at which he had met them, usually Sacramento postoffice, and promptly named their business and other details about them. He said he was not sick and never had been sick, and was confused as to immediate surroundings; could not find his room, place at the table, lavatory, etc. He insisted that the sun was rising in the west and was fearful that some calamity was going to happen because it had changed its course. He was not very steady on his feet, but no Romberg was present. His knee-jerks and other tendon-reflexes were somewhat increased; his pupils reacted to light, but only slightly, and there were no definite motor or sensory disturbances present, except paresthetic sensations; his hands and knees felt cold, no muscular atrophy. He was easily excited and teased by trifles, was unable to apply himself to any work and forgot what he was told to do a few minutes after the directions had been given. He presented no symptome of digestive disturbances; his appetite was voracious. When a patient unintentionally rubbed against him or happened to shove him, he told his attendant about the terrible abuse he had suffered at the hands of nurses. When he met the same person, attendant or physician, several times in the course of an hour, he addressed him as if for the first time, but had always met the gentlemen in Sacramento or somewhere else and went into long details of description as to place and circumstances of the meeting.

Course of Disease.—These symptoms presented by the patient continued the same throughout the year of his stay at the hospital. In August, 1904, he had an attack of prostatitis with bladder trouble, the inflammation extending to the kidneys and he died from a cystopyelonephritis, Sept. 27, 1904.

In recent years it has been contended by some writers that it is incorrect to speak of a Korsakoff psychosis because the complete disease-picture, as described by Korsakoff, is not always met with; that some cases are unassociated with multiple neuritis and that the main features are found inserted into other pathologic states, as for instance the case just cited. Leading authors, however, like Bonhoeffer, Kraepelin, Tiling, etc., insist that, while the amnesic symptom-complex undoubtedly occurs as a part of varying pathologic states, those cases which develop on an alcoholic or toxic basis, and in the

characteristic manner lead to the manifestation of the four elementary constituents of the symptom-picture, should retain the name of Korsakoff's psychosis. As Bonhoeffer says, it is a disease which was symptomatologically first outlined by Korsakoff, a disease which has a demonstrable etiology and runs a definite course. Korsakoff described cases in 1887 as "cerebropathia toxemica psychica," a polyneuritic psychosis or disease *sui generis*, which is especially characterized by three fundamental manifestations: a toxemic etiology, a polyneuritis and a peculiar mental picture. This original acceptation of the disease entity has since then been critically modified by Jolly, Tiling, Regis, Babinsky, Gudden and others, and it is now recognized that aside from being at times only a syndrome, the chief, most frequent and most distinct group of cases or, as many call it, the disease proper may or may not be accompanied by a multiple neuritis, and a general toxemia as well as an alcoholism may usher in the symptoms.

One finds occasionally in alcoholism of long standing cases of delirium terminating critically, which show few hallucinations and illusions while a loss of memory, defective recording faculty, disorientation and pseudo-reminiscences resembling in character the moment-confabulations are especially prominent. Some of these deliriums are protracted, others terminate in the amnesic symptom-complex, and Bonhoeffer insists that the majority of cases of Korsakoff's psychosis showing this alcoholistic etiology may especially be differentiated by this delirium-tremens-like character of the delirious phase. The developmental phase is, however, not always delirious in character. In very heavy drinkers, a state of marked somnolence is met with in the early history of the case, and it is especially in such patients that neuritis combined with asymbolic and aphasic symptoms is never missed. This stuporous form is more common in women than in men and may begin with alcohol-epileptic attacks. Cases in this early stage have terminated fatally, forming a part of Wernicke's polioencephalitis hemorrhagica superior, in which the eye-muscle paralysis (ophthalmoplegia) is but one of the manifestations of the general disease including the amnesic symptom-complex and multiple neuritis. Bonhoeffer estimates that the Korsakoff syndrome is met with in 3 per cent. of cases of chronic alcoholism, and Chotzen found it present among female inebriates in 20 per cent. of the cases, i. e., that it is nearly seven times more frequently met with in women than in men. Statistics from Switzerland for 1901-1905 (Marie Kasperowicz) show Korsakoff's psychosis present among 246 alcoholics (209 men and thirty-seven women) in 3 per cent. of the men, and 10 per cent. of the women.

Pathogenically, there may in such cases be said to be two toxic causes active: a chronic one, usually based on the alcoholism, giving rise to the psychopathic disposition and the multiple neuritis, and an acute intercurrent one, to which the psychic symptoms may be ascribed, proving the correctness of Korsakoff's understanding of a toxemic etiology. Mönkemöller claims that the presence of a digestive disturbance in the alimentary tract can be demonstrated in nearly all cases. Acute infections may run a course leading to the development of the Korsakoff syndrome, which is even quoted in the original description of the disease. Bonhoeffer mentions attacks of enteritis, dysentery and especially typhoid fever, also meningitis, articular rheumatism and puerperal fever as occurring in the early history of cases of Korsakoff. Lapinsky reported in 1908 two cases developing in the puerperal period and collected reports of four others from the literature. In the literature of the year 1909 there are several cases mentioned following erysipelas. Such cases show an acute delirious or stuporous beginning with fever and anxious states mixed with persistent persecutory ideas, the psychotic picture resembling at times that of amentia. Bonhoeffer suggests as the only differentiating feature, so far established between this and the alcoholic form, that in the latter the history shows frequent intercurrent deliria and a euphoric-witty state of the affects. In illustration of the typical Korsakoff connected with chronic alcoholism I append another case observed at the State Hospital, in which the amnesic syndrome developed in a man who had been drinking to excess for twenty years and who went into further excesses when discharged. He had not previously had attacks of delirium, but on a trip east he contracted an acute bowel complaint which developed a marked delirious state. Memory defects had been observed before he went east, but the acute intercurrence was followed by a rapid exacerbation of the amnesic symptoms. The case showed a defective recording faculty which was more marked visually than aurally. Neuritic symptoms were present.

CASE 2.—*Patient.*—J. M. F., native of Connecticut, aged 69 years, telegraph operator, married, had two children living. Father drank; no history of neuropathy in the family as far as known.

History.—Patient had been a hard worker, devoted his whole life to telegraphy; was very intellectual, made a number of inventions now bearing his name and was manager of the Western Union Telegraph Company in an eastern city. He came to California twenty years ago, working for the company here at a lower salary, which loss in income made him worry greatly and drove him to excesses in loquor. He drank to some extent before, but during the last twenty years he had been drinking steadily, indulging in whiskey only. He would drink to excess short of visible signs of intoxication, but is said never to have had an attack of delirium tremens. He was a man of violent temper, nervous, irritable and of a jealous disposition. He had complained for a year or two of what he called rheumatic pains in all extremities, especially the lower. The pain seemed to extend along the whole length of the extremities, which for some time had been quite sore to the touch. About a year ago he made a trip east to recuperate. He had been drinking heavily and was unable to fill his position at the office. On the trip he was taken ill and, while east with a relative, suffered from an acute bowel complaint, was delirious for a week or two and suffered very much from renewed pains in the extremities. On his return to San Francisco in July, 1905, he was better, but his forgetfulness had grown worse and he showed incapacity for work. In October, 1905, he was dismissed from the service. He began to give exaggerated and invented accounts of events and seemed subject to persecutory ideas—people were trying to harm him, were not friendly to him as formerly—he was being "doped"—people were following him. His memory gradually deteriorated until he would talk about having been at work in the telegraph office when, as a matter of fact, he had been wandering aimlessly about the streets.

Examination.—When admitted to the hospital Feb. 17, 1906, he was found to be a man fairly erect for his age; his gait was unsteady; he complained of pain in the lower extremities and formications, but there did not appear to be any marked anesthesia present, nor any perceptible muscular atrophy. The muscles of the lower extremities were flabby, and seemed sensitive to pressure over the calves. The nerve-trunk also seemed sensitive to pressure. A marked fine tremor was present in the hands, tendon-reflexes were somewhat diminished. There were no pathologic symptoms about the cerebral nerves, speech was normal and free from tremor. Examination of eyes showed nothing pathologic. The pupils reacted slightly and tardily to light; a marked arcus senilis was present. The physical examination of chest and abdominal organs revealed

V. 57
1911

nothing pathologic; the pulse was regular; some arteriosclerosis was present in the radials. No subjective symptoms of indigestion; tongue was slightly dry and coated; bowels regular. The patient was very restless, walking constantly up and down the hall and was talkative; he talked coherently and intelligently but was not oriented. He thought it was about December, 1879 or 1880; that he was railroaded into the Stockton asylum and from there taken to this place ("Isn't this Lodi?"). His memory was quite defective as to events in the immediate past.

Course of Disease.—Two days after his admission, about 1:30 p. m., he was asked when he came here. He said: "I came here this morning—no, let me see, it was this afternoon I came here." "What time did you come here?" "Why, I came here at 4 this afternoon." After conversing on other subjects for a few minutes, the subject was returned to and he said, without hesitation: "I came here yesterday." He did not seem to be subject to visual or aural hallucinations, but talked about persecution in a general way; his powers of observation were blunted as showed by tests in arithmetic and with pictures. The defects observed in testing visually were greater than by aural tests. The superficiality of his visual observations was strikingly illustrated by the following occurrence: A patient threw some horse-manure into his room through a window. F. picked it up and put it into his pocket and afterward commenced to chew it but soon spit it out, trying to conceal from the attendant that he had deceived himself. He still had a craving for liquor and entered the attendant's room many times daily asking for a drink of whiskey, saying the doctor said he could have two drinks daily. On March 23 he entered the room of another patient by mistake—he insisted, however, that it was his room. As he refused to leave, the other patient struck him in the mouth, cutting his lip slightly. When spoken to about it, he at first denied that he had been struck, appeared to have forgotten it until the attendant walked up to him and touched his chin. "Oh, yes, a beast of a man struck me." He was often heard afterward telling about having been struck by someone, he didn't know whom—giving an exaggerated account of the affair; saying that five teeth had been knocked out of his mouth and inventing other details. He was not cognizant of the day of the week or month; thought he was in a retreat 40 miles from Stockton. He still had a craving for whiskey (March 24), came to the attendant a few minutes after it had been denied him and asked again for whiskey, having forgotten that he had just begged for it. He could not remember the simplest word three minutes after it had been told him and he was unable to recognize the word among six or seven other words mentioned to him.

March 28: F., who has not been out of the ward, says he had a long walk day before yesterday. "I walked 2 or 3 miles and was all over the city and I talked with a number of people, but not a single one treated me or offered me a drink. I haven't had a drink in this place for a week" (had been given a small quantity this morning). Asked what he was doing in Stockton, he said: "I chatted with people about my affairs; it was about things that would not interest you (in an irritable mood)—I didn't call at the telegraph office." "Didn't talk to the operator, you say? Why, there are fifty operators in the office." Asked what office he referred to, he said: "Why, in the city of San Francisco."

April 1: F. calls his attendant Charlie Myers, whom he has known since he was a kid in San Francisco. His physician's name he doesn't remember until he has looked it up in a letter and finds it to be Cleverton. (His wife uses this name in her letter speaking of the attendant.) He has never met his physician (who has seen and conversed with him daily) in this house before, but "we have met before in San Francisco." Where did we meet Mr. F.? "Oh, I met you in the telegraph office."—When? "A month ago—talked with you in the afternoon about going out to see my daughter."

June 18: The patient complains this morning that medicine has been placed in his coffee and soup; they have a queer taste.—"I sleep very little, if any, before midnight (the night attendant reports that he sleeps well) on account of pain in my legs. When this is most severe, there is a marked absence of pain about my heart. Some things are happening that I dare not speak of—right here in this house. I wish I could say what I want to say about this man (his nurse), but he has so much authority that I dare not. He is planning to keep me here so he can cohabit with my wife. He has gotten into her good graces and it is to his interest to declare me crazy and keep me here. I am going to have this matter investigated by the governor of the state. I am 72 years old now (he is 69 years), too old, I fear, to get any permanent relief from my physical ailments. I have lived two years more than the allotted life, have been very active until about a month ago when the W. U. took pity on me and gave me a lay off. Reports have been sent in to the manager of the W. U. that I was being maltreated here and he has investigated it and found it true and has made application for my discharge. I was working for the telegraph company during the months of January, February, March, April and May, until the first of this month" (he has not worked there for about nine months).—After a few moments when he was asked about his maltreatment and the report just spoken of, he replied: "I did not say anything about being maltreated. The manager of the W. U. and others in the office are jealous of me and wish me kept in a place of this kind. It was through their instigation that 'dope' was put in my coffee and soup, while I was stopping in a hotel in San Francisco before coming here. I never had this pain in my limbs and trouble with my heart until they began to give me this dope.'"

June 30: "I slept very well last night—could not detect anything in my breakfast. I think they have found out that they have been reported and are now going to let up on it. My wife has filed application for my discharge and it has been favorably acted on. I will be discharged in a day or two."

July 6: He still complains of the neuralgic pains in his calves and thighs. Says his wife was here to see him a month ago (she visited him three or four days ago). When the patients are called from the yard to the wards for dinner or supper, F. never fails to ask his attendant which is the right door for him to enter.

August 23: F. says to-day that his wife was married to the attendant of his ward last night and that the reception room was brilliantly lighted and he could hear music. He was willing she should have her divorce but sees no reason why he should be held here, as there is nothing the matter with him more than that he suffers from neuralgia.

October 3: F. seems less subject to persecutory ideas; ideas of jealousy are not so pronounced, but defects of recording faculty and confabulation continue. He was taken out in the asylum grounds in the care of a patient to-day.

December 15: F. came hurriedly to the attendant to-day and reported that he had found a man lying dead in his room. The attendant, on investigating, found a patient lying on the floor asleep in some other room (not F.'s). This patient did not waken when spoken to (F. had only spoken to him), but when shaken by the attendant he got on his feet and acted as usual. F.'s memory defects, etc., have continued the same for the last two months.

January 7: F. strayed into another patient's room and asked him what he was doing in his (F.'s) room, telling him to get out, when this patient struck him in the face causing a dislocation of the nasal cartilage.

February 5: F. says to-day to his physician: "You put a telephone to your ear and thumped me around yesterday and located the break" (no examination had been made of him but he probably observed an examination of an inmate of his ward made some days ago). He thought that the injury he received a month ago was in his chest.

February 15: F. tells his wife (to-day) that he was struck in the temple by a patient some time ago, who cracked his skull clear across his head. (He referred to the time when a certain patient struck him on the jaw in September last year.)

March 7: F. says he fell to the floor unconscious twice yesterday. (No one saw him sick or prostrate on the floor.)

From this time on, the patient showed the same symptoms of amnesia, disorientation and confabulation, but to a less extent—was out on parole but in the care of another patient,

as he would repeatedly lose his way when left unattended. He died Dec. 10, 1907, from an acute colitis complicated with an acute bronchial catarrh which became capillary.

In line with the action of chronic alcoholism and the various forms of acute infection, as basis to the Korsakoff syndrome stands the chronic poisoning induced by certain toxic substances. Haymann reports a case of Korsakoff psychosis in a woman aged 31, who was habituated to the use of morphin hypodermically. During the period of deprivation of the drug, she suddenly developed polyneuritis with the amnesic syndrome which, however, disappeared after fourteen days. In 1900, an extensive epidemic of arsenical poisoning was observed in Manchester, England, due to the accidental contamination of beer. Among the many cases, Dr. Reynold reported a number of patients presenting symptoms of Korsakoff's psychosis of a milder type than those usually observed in connection with alcohol. It has also been asserted that chronic lead-poisoning may be attended by this group of symptoms. Traces of Korsakoff's syndrome have been reported in connection with poisonings by inhalation of carbon monoxid, but the memory-defects observed were more diffuse in character and the confabulations not pronounced. Meyer of Königsberg reported a case two years ago, developing three weeks after the inhalation of the gas. The Korsakoff syndrome subsided after a time, but recovery was not complete.

Retrograde amnesia has been well-known as a manifestation following attempts at strangulation, and this has occasionally been associated with a defective recording faculty, disorientation and confabulation, the symptom-complex developing in the track of a certain delirious state and epileptiform convulsions which frequently result from the strangulation. Tumors of the brain have also been recorded by some writers as leading to the development of the Korsakoff symptom-picture. Bonhoeffer has especially found it in connection with sarcomata of the brain, without regard to any definite location, but in such cases the mental vivacity is absent, the patients being more or less stuporous and the confabulations rarely observed and less spontaneously produced. Jolly and Soukhanoff have first called attention to the relationship of the amnesic syndrome to lues cerebri and general paralysis. In the latter disease the symptom-complex has been comparatively rarely observed. Three cases with a statement of anatomic findings were reported some years ago by Meyer and Räcke.

The third case of the Korsakoff syndrome, observed by me at the Stockton Hospital, proved to be a case of general paresis. It was quite atypical and for a time the diagnosis was thought to lie between cerebral tumor and lues cerebri. The amnesic symptom-complex was, as it were, set in a frame of aphasic disturbances and visual hallucinations. These hallucinations were quite characteristic of alcoholism and no doubt were referable to the patient's former alcoholic excesses, which may perhaps also have played a certain rôle in the origin of the Korsakoff syndrome. In the course of time, apoplectiform attacks, however, became a frequent occurrence and a general enfeeblement gradually effaced the distinctness of the amnesic and aphasic symptoms so that the nature of the disease seemed definitely settled before the fatal termination, and was further corroborated by the post-mortem findings. The chief features of the case bearing on our subject herewith follow:

CASE 3.—*Patient.*—F. E. S., a native of California, aged 45 years, painter and paper-hanger, married, father of one child (his wife had two miscarriages prior to birth of child), was admitted to the Stockton Asylum, March 9, 1906, his first commitment to a hospital for insane.

History.—When a child he was said to have had an attack of typhoid fever; had not been seriously ill otherwise. He used to drink to excess when a young man, but had not been drinking for a year or more. Some years before admission he had an attack of painter's colic. About five months before admission he suffered a "sunstroke" and fell from a building on which he was working, sustaining a fracture of left humerus and of a couple of ribs. The mental symptoms had been observed since this accident. His wife said he was always on the go when not working; was never contented anywhere. The commitment paper states that he had been restless, that he had lost in flesh and had been destructive—making threats against his sister, that he was not able to attend to any business and was subject to visual hallucinations. Previously, he had always had plenty of work to do, but of late he would act so queerly that old patrons would not give him anything to do, which made him worry so that he attempted suicide two or three times during the past year. His wife said he had seemed partly paralyzed. Whenever he picked up anything, he would drop it and complain that he had no feeling in his arms, which felt numb to him. He also began to suffer from sleeplessness.

Examination.—When examined in the hospital he was found fairly well nourished; his height was 5 feet 5½ inches; his weight 138 pounds. The facial expression was dull, there was a bloated appearance in the face. Examination of the eyes showed tardy reaction of pupils to light, no muscle-symptoms, normal fundus. His speech was slightly tremulous, but there was no inarticulation; there was coarse tremor in the tongue and hands; no facial inequality nor paralysis of tongue or palate. Romberg was slightly present; no motor or sensory paralytic symptoms; no marked sensitiveness about nerve-trunks or muscles on pressure. Tendon-reflexes were increased; skin-reflexes about normal. Heart and lungs were normal. Pulse 75, regular, slightly arteriosclerotic; temperature and respiration normal. Tongue moist, slightly coated; bowels regular; urine normal, specific gravity 1.021. He was slow in understanding when spoken to, but was frequently talkative, restless and excited. He gave evidence of being subject to visual hallucinations; at times he saw horses, cattle, lions and panthers all around him; he lifted his feet as if afraid of stepping on imaginary things on the floor. He was not oriented as to time or place; thought he was in a courthouse at Woodland (his native town); he said it was 1895; did not know the month or day of the week. Amnesia was present; he did not remember the name "Victoria" after two minutes. In his talk with the examining physician he confabulated: "I had dinner with you and your wife, and the young boy too—it was at Woodland." A few minutes afterward he had forgotten all about saying so.

Course of Disease.—The patient was picking imaginary objects from the floor; a big worm, a screw, etc. He said to the attendant: "There is a white worm on your neck." When told to pick it off, he fumbled about the attendant's neck a few minutes and then held out his hand saying: "Here it is—it is alive yet—it is a young one." Pointing to the floor a few feet away he smiled and said: "Isn't that a nice dog? I wonder to whom it belongs—here, puppy, puppy." Afterward he said: "I want to get out now and go to see my mother, I haven't seen her for over a week. She told a man just across the street that she wanted me to come home, she is going on a long journey, I believe."

March 12: S. seems to realize his surroundings to-day and is quiet. He saw all sorts of animals and objects, but these visual hallucinations seem to have disappeared to-day.

March 24: S. was much confused last night, roaming about his room, upsetting his bed, urinating and defecating on the floor. A cow got into his room, chewing him up; he saw snakes of all kinds and was trying to catch imaginary horses in his room.

April 8: S. has been somewhat oriented as to time, but confused as to his own condition and circumstances during the past three days.

V. 5
1911

May 27: S. had an epileptiform attack at 7:30 a. m. to-day. After the attack he slept for two or three hours and was silent most of the time afterward. The next day he talked, but was confused; word-deafness was present and he did not seem to recognize objects. He also mixed words, misapplying them and speaking in an unintelligible jumble: "I got the pipe, the poron of it right here—right here, the stove here, I right here, stove, the room. Right here in the stove. I am in the pipe. It ain't my room; it is the room. Here is where I sleep. How are you feeling to-day?" "Yes. Well, I stood that. Well, that is natural—good." He used his hands as if handling invisible objects (pulling at strings, disentangling wires). Slight inequality of pupils (left greater than right) is present.

May 30: S. is still confused; shows disorientation as well as defective memory and confabulation. Visual hallucinations are likewise present. He is seen swinging his hands with an imaginary spider at the end of its thread—warning those around him not to come near him or they will be poisoned. Aphasic symptoms have almost disappeared.

May 31: S. was very noisy last night. He thought the walls were falling in on him. To-day he seems a little better.

June 2: S. is better to-day, but still confused and confabulates as usual: "My brother was out hunting last Sunday and he was accidentally killed." (Adding this when asked about his brother, who lives in Stockton and calls on him now and then.) His speech is still a little inarticulate, but not aphasic.

June 29: S. had a second epileptiform attack at 9:30 a. m., to-day, which lasted till noon. After this he remained more or less unconscious for twenty-four hours.

July 1: S. again speaks plainly when talking to imaginary worms and spiders. He is noisy at times; he occasionally begins to give intelligent answers to questions.

July 4: He has some trouble in using his right arm. Will speak when spoken to. Speech is tremulous and lips show marked muscular tremor when he speaks. He continues to improve in a general way.

July 16: He had the third (mild) epileptiform attack at 2:45 p. m., from which he recovered in two or three days, after which the symptoms of visual hallucinations continued as before. He begins to show an inclination to rhyme words, but his speech is much less inarticulate and aphasic. He had a fainting spell on August 4, from which he quickly recovered. About this time he would on some days suddenly lose his power of speech; he would mumble words which could not be understood and would appear dazed for hours at a time. After an attack of this kind on August 12, his right arm became completely paralyzed.

August 16: He is able to walk about in the yard as usual, but is again engaged in killing imaginary animals, drawing gold wire from the floor and at times becomes very excitable. His voice is tremulous and he talks with great effort.

August 23: He had a hemorrhage from the bowels, with symptoms pointing toward the existence of an ulcer in upper part of small intestine.

He was put on a diet and the hemorrhage did not repeat itself, but his speech disturbances became gradually more marked, more paraphasic as well as dysarthritic, so that on September 5 he could only say certain words as "well" and "yes." In the course of the following week he again improved so that his speech became intelligible and the right-sided hemiplegic symptoms subsided, but he became very untidy, developed decubitus and showed a gradual weakening mentally. During the months of October and November he improved somewhat physically but he became slow in understanding, required repetition of questions many times to grasp the meaning, and his talk was rambling. Word-deafness was again present. When asked about the name of a place he replied: "What is that he says—gas-pipe?" Although his bedsores had healed, he gradually grew weaker. His condition in general remained about the same until Feb. 14, 1907, when he had a fourth epileptiform attack, which repeated itself four days afterward and he died in a comatose condition on Feb. 19, 1907.

Post-Mortem Examination.—This showed adhesion of the dura to the bone over large areas of the cranial surface, a very large quantity of fluid in the pia-arachnoid, which was found thickened and milky and very adherent to the cortex, especially about the frontal lobes where the gyri were flattened and much narrowed, the cortex being in the frontal, parietal and temporal lobes of both hemispheres markedly attenuated. Hydrocephalus internus is present—the lateral ventricles being about equally much dilated, and the ependyma showed marked granulations. The hypophysis was found much hypertrophied, was indurated to the touch and showed the presence of psammomata. Perpendicular section of the left inferior frontal gyrus in its lower part, adjoining the anterior central, showed the presence of a softening of the size of a small bean, situated in the medullary substance just below the cortex. Otherwise no foci were found. Arteriosclerotic changes were very marked in the internal carotid, basal and vertebral arteries.

Some months ago Dr. Ernst Thoma of the Illenau Asylum in Baden, Germany, reported the histologic findings by autopsy of two cases of somewhat chronic types of Korsakoff psychosis. He found, besides a thickening of blood-vessel-walls and vascular proliferation to a less extent than in paresis, a diffuse degenerative process in the entire nervous system, which showed itself as a disease of the ganglion-cells resembling that of a general paralysis. He also found a degeneration of the medullary fibers of the brain and a proliferation of the glia-cells as well as of the glia-fibers to replace the loss of the medullary substance. It had been claimed by some that these changes were especially marked in the frontal and parietal lobes, but this claim could not be established by Thoma's investigations. The histologic findings have, of course, varied some from the above in the very acute cases terminating fatally in the early part of the disease. A lymphocytosis has been demonstrated in the cerebrospinal fluid in one case of an alcoholic type of Korsakoff's syndrome, and in another similar case was found Nonne's Phase I, of clouding of the cerebrospinal fluid on addition of ammonium sulphate, with further increase of cloudiness on addition of magnesium sulphate.

It is difficult to definitely place the prognosis in a case where the amnesic symptom-complex shows itself. It is usually met with in very severe brain disturbances, but observations in cases where it has developed after strangulation show that restoration is possible. The prognosis is also tolerably favorable in cases with an infectious etiology and cases in which the syndrome has attended arsenical and carbon-monoxid poisoning. On the other hand, the prognosis is more or less unfavorable where the disease has developed in previously unhealthy brains, following severe forms of alcoholism or in arteriosclerotic and senile cases.

Experience has shown that exercise of the recording faculty with retracing of past observations will under favorable circumstances lead to improvement of the Korsakoff manifestations, in the manner that memory exercises have given favorable results in aphasia.

State Hospital.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SMITH AND HOISHOLT

DR. S. GROVER BURNETT, Kansas City: Korsakow's disease is a condition we meet frequently but is rarely understood. The general practitioners overlook this condition time and time again, and we see patients going to asylums as insane persons. This, I do not think, should occur. It is an old disease, first described by Korsakoff, and I would say that I recorded my first case in 1886, one year prior, or two years

prior to the publication by Korsakoff. This case of mine has since been published. I recorded one case resulting from lead poisoning. I am glad to hear the essayist bear me out in this. You will remember that lead poisoning manifests itself in motor palsies ordinarily. Korsakoff's disease is manifested in sensory palsies attacking the mental impulse carrying sensory neurons, producing mind symptoms—Korsakoff's syndrome—while lead poisoning affects the motor neuron-producing motor symptoms. I have seen two cases in the past year following morphinism. They were both chronic morphin cases.

DR. R. P. SMITH, Seattle: In the case I reported Korsakoff's symptoms were present. They developed possibly a week after we found paralysis of the tongue present, and it was five or six days after the symptom of the twelfth nerve paralysis had cleared up before the Korsakoff symptoms had disappeared.

POSTOPERATIVE RETENTION OF URINE AND CYSTITIS *

J. H. JACOBSON, M.D.
AND
J. G. KELLER, M.D.
TOLEDO, O.

The occurrence of postoperative cystitis is still of sufficient frequency to warrant a discussion and presentation of some of the newer thoughts and methods for the prevention of this condition. A troublesome postoperative cystitis, either temporary or permanent, has often spoiled an otherwise excellent surgical result.

Heretofore a postoperative cystitis has been considered by many authors solely as a cystitis due to catheterization. While this view is largely correct, it is our purpose to show that preventable, abnormal anatomic conditions of the bladder, dependent on the surgical procedure itself, are in many cases the real predisposing etiologic factors in the production of the complication, and that the catheter *per se* is for the most part merely the exciting cause.

All authors agree that for the production of a cystitis it is necessary to have, besides the bacterial infection, one or more of the following predisposing factors, i. e., retention, trauma, or congestion.

According to Caspar[1] and Freyer,[2] the following organisms, named in order of frequency with which they are present, are to be considered as the cause of cystitis: *Bacillus coli communis, B. proteus vulgaris* (Häuser), *B. tuberculosis, Staphylococcus ureæ liquefaciens, Strepto-bacillus anthracoides* and *B. typhosus, M. gonorrheæ.* Abundant experimental evidence has demonstrated the fact that pathogenic organisms may be present in the bladder without producing cystitis, but that certain conditions favorable to their growth must be present before a cystitis will develop. In the normal urethra numerous bacteria have also been found which, as a rule, are nonpathogenic and remain latent so long as they do not enter into the bladder under conditions which predispose to cystitis.

Baisch[3] found that when the urine, aspirated from the bladder during laparotomies, or colpotomies, was examined bacteriologically, the clear urine of women contained no germs. Enriquez, Franz, Hofmeister and Melchior, have shown that the last portion of spontaneously discharged urine almost always contains germs, even after the most careful cleansing of the urethral orifice, although Melchior succeeded after repeated preliminary irrigation of the urethra in obtaining a practically sterile urine.

Baisch,[3] in his most excellent bacteriologic work on this subject, says that the number and kind of bacteria found in the normal urethra are dependent on the condition of the vestibule and vagina, and are subject to the greatest of variations. The bacteriologic findings in the puerperal women differ from those in the pregnant, in the healthy from those in invalids, and in patients operated on from those in patients not operated on. As the colon bacillus was the most common organism found in his cases of cystitis, Baisch endeavored to ascertain the source of the *B. coli* when the examination fails to disclose it in the vulva or the urethra. He believes that his examinations of the vulvar and urethral secretions of bedridden patients, operated on and not operated on, have solved the question. The bacteriologic examinations on forty-five operated patients who were positively known not to be affected with cystitis, gave results as follows: no culturally demonstrable organisms in the vicinity of the urethra and in its lowermost section, on the eve before the operation (after the usual disinfection of the external genitalia); on the second day staphylococci were already found (*albus*, less often *aureus*), and from the third, fourth and fifth day on, in addition to these, the *B. coli.* The presence of staphylococci is explained by the general spreading of the skin-germs, and of the *B. coli*, by the vicinity of the rectum and anus. Systematic daily examinations of the urethral and vulvar secretions in patients not operated on but bedridden showed that although no colon bacilli were present on the day of admission, they were invariably found in the urethra and vestibule after lying in bed for a few days.

Urinary retention or ischuria is the most common complication which predisposes to an inflammation of the bladder following surgical operations. This takes place either by a direct backward invasion of the organisms of the urethra, owing to the absence of the mechanical cleansing effect of the urine during the act of micturition, or it follows the introduction of organisms into the bladder from the use of the catheter.

Many theories are advanced in explanation of postoperative retention of urine, among which are especially to be mentioned: the inability of some patients to urinate in the recumbent posture; a neurosis especially in nervous individuals; a reflex condition, contributed by the sympathetic nervous system producing urethral spasm and vesical paralysis; disturbances of the intra-abdominal pressure; paralysis or atony of the detrusor muscle from toxic substances similar to postoperative atony of the intestine; trauma of the peritoneal covering of the bladder; interference with the blood- and nerve-supply to the organ and a swelling or edema of the mucous membrane about the internal urethral orifice.

The relief of urinary retention by catheterization of the bladder has long been known to be a very frequent cause of postoperative cystitis, so much so as to lead many authors to consider it always as a "catheterization cystitis." There can be no question that the catheter is the most important single exciting factor in the production of a cystitis. This is explained by the trauma of the mucous membrane of the urethra or bladder incident to its introduction, and by the conveyance to the bladder

* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Caspar: Genito-Urinary Diseases, English Trans., 1909, p. 1208.
2. Freyer: Surg. Diseases of the Urinary Organs, 1908, p. 237.
3. Baisch, K.: (Univ. Tübingen) Bakteriologische und experimentelle Untersuchungen über Cystitis nach gynäkologischen Operationen, Beitr. z. Geburtsh. u. Gynäk., Leipsic, 1904, viii, 297.

V. 5
1911

of some of the organisms (notably the colon bacillus), which are present in the lower urethra of bedridden patients. In this manner are the postoperative inflammations of the bladder to be explained after such operations as perineorrhaphy, trachelorrhaphy, rectal operations, hernia and other operations which do not necessitate handling of the bladder.

The predisposing factors of trauma and congestion become of great significance in all operations, whether vaginal or abdominal, in which a separation or dissection of the bladder from its attachments to the cervix or vagina is necessary. As examples we need only to mention such operations as complete hysterectomy, abdominal or vaginal, the Wertheim radical operation for cancer of the uterus, separation of bladder adhesions in inflammatory disease, operations on the anterior vaginal wall, such as anterior colporrhaphy, vaginal cesarean section and the Watkins-Wertheim operation for total prolapse of the uterus. In such operations, on account of the increased danger of subsequent cystitis, greater care is necessary in manipulating the bladder and in its accurate reposition by suture, as well as in its postoperative treatment. Crippling lesions about the bladder, pericystitis, and distortion often result after such operations and prolong a cystitis indefinitely.

Cystoscopic examinations of a number of patients, on whom some of the operations above numerated had been performed, were made by one of us (J. G. Keller) and a composite picture of the bladder constructed from the findings.

Kolischer,[4] writing in 1902, says:

> The operative step which obviously is most apt to interfere with the integrity of the viscus is the act of stripping off the bladder from the uterus. If this is done in a proper way—that is, if we sever only the connective tissue between the bladder and the uterus—the bladder will remain absolutely intact. But if we come too near the bladder-wall, . . . or the operator digs into the bladder-wall proper, a condition will arise which I have described some years ago as, "traumatic desquamative catarrh."

Again, in 1903, Kolischer[5] writes:

> To this must be added that the circulation in the bladder-wall is considerably interfered with in more extensive operations, on account of the severing of so great a number of large blood-vessels. The traumatic catarrh, therefore, will not heal until sufficient circulation is restored by the establishment of a collateral blood-supply. All these catarrhs do not amount to much if the patient is properly cared for, that is, if the bladder is regularly emptied, if catheterization does not cause infection and if no accumulation of feces in the bowels is permitted to occur, so as to prevent the immigration of colon bacilli to the bladder.

Ellice McDonald,[6] in 1908, reported four cases of cystitis, the result of gynecologic operations, as follows:

> Two cases following suspension of the uterus by the abdominal route. In one case there was marked saeculation of the bladder, with patches of inflammation and congestion; in the other there was considerable distortion of the trigone, alteration in the site of the ureteral orifice and saeculation of the bladder.

The third case was a complete hysterectomy for purulent tubal disease, in which the bladder was very markedly dilated and would retain 1,500 c.c. The walls were much congested, and the fibers of bladder-muscle were separated into a network of firm, stout bands, the largest as great as a lead-pencil and the smallest as the lead itself. The mucous membrane dipped into the crevices, while the ureteral orifices were much distorted, the bladder was very irregularly dilated and had lost its tone. The incontinence of retention was present. The fourth patient had a cystocele operation, and the scar of the operation could be seen within the bladder, although it did not seem to have penetrated the bladder mucous membrane, the left ureteral orifice was displaced and the region of the scar was inflamed and congested.

Sieber,[7] in 1908, made a number of cystoscopic examinations to determine the situation of the bladder after cystocele operations. He reported that in some cases the trigonum disappeared partly behind the sphincter, and deep recesses in the floor of the bladder were present with an injection of its blood-vessels.

Franz,[8] in 1908, and Wertheim,[9] in 1909, write extensively regarding the cystitis which follows the radical abdominal operation for cancer of the uterus, and state that the chief causes are the nutritional changes in the bladder-wall and that it is unavoidable and independent of catheterization.

Stoeckel,[10] after many cystoscopic examinations following gynecologic operations, has come to the conclusion that in the past too much stress has been laid on infection introduced into the bladder by way of the catheter in cases of postoperative bladder disturbances. He emphasizes two important facts: first, that after gynecologic operations very often distinct changes in the bladder-wall, without urinary symptoms, are present; secondly, that such bladder disturbances are caused very often not by infection introduced from without, but rather are to be traced back to the trauma of the bladder during the operation.

Falgowski[11] reports extensively on his cystoscopic examinations of fifty-three women, following abdominal and vaginal operations, in whom some injury of the bladder was suspected. His examinations were undertaken in order to ascertain whether vaginal or abdominal operations were more liable to postoperative cystitis; these examinations demonstrated that the vaginal operations were no more dangerous to the bladder than laparotomies, but that under etiologically equal conditions (i. e., septic cases) bladder troubles were found more often after laparotomies. He emphasizes three important factors in the production of postoperative cystitis, i. e., catheterization; the anatomically incorrect care of the bladder during operation; and the septicity of the particular case. He states in particular that through incorrect care of the bladder, errors may be made in both abdominal and vaginal operations, and that the operators who endeavor to cover this organ well with peritoneum will avoid much trouble. He emphasizes the fact that, after vaginal incision of the anterior vault, the parietal peritoneum should be sutured exactly and carefully to the vaginal wall immediately after opening

4. Kolischer, G.: Condition of the Bladder After Hysteropexy, Am. Jour. Obst., 1902, xlvi, 837.
5. Kolischer, G.: Postoperative Cystitis in Women, Am. Jour. Obst., 1903, xlviii, 349.
6. McDonald, Ellice: Cystitis in Women, With Report of 45 Cases Studied Cystoscopically and Some Modifications of Treatment, Med. Rec., 1908, lxxiii, 303.
7. Sieber, H. (Univ. Frauenklinik, Marburg): Ueber den Blasensitus nach Cystocelnoperationen, Ztschr. f. Gynäk. Urol., Leipz., 1908, i, 87.
8. Franz, K. (Frauenklinik d. Univ. Jena): Die Schadigungen des Harnapparates nach abdominalen Uteruscarcinomoperationen, Ztschr. f. Gynäk. Urol., Leipsic, 1908, i, 3.
9. Wertheim: Gynäkologie und Urologie, Ztschr. f. Gynäk. Urol., Leipsic, 1909, i, 253.
10. Stoeckel: Cystoskopie und Urethroskopie, Berlin, 1910, p. 250.
11. Falgowski, Wladislaus: Ueber cystoskopische Befunde nach gynäk. Operationen, Ztschr. f. Gynäk. Urol., Leipsic, 1909, i, 283.

into the peritoneal cavity, in order to protect the bladder from mechanical insults as much as is possible and not rob it of its nutrition. In laparotomies this can be done, at least at the close of the operation if not sooner. By surrounding the bladder with as much peritoneum as is possible, a natural support is given which is especially needed after extirpation of the uterus. The more careful and successful the care of the bladder, the less subsequent bladder disturbance was observed in his clinic, and vice versa.

The frequency and variety (Falgowski) of cystoscopic findings ranges as follows:

	After 14 Laparotomies	After 39 Vaginal Operations
Kinking of a ureter	..	2
Pyelitis	..	2
Excessive sensibility of the bladder-mucosa	..	5
Transposition of the trigonum	5	5
Cystitis diffusa	4	7
Exudate	6	6
Edema	5	9
Inflammation of the bladder neck	8	7
Pericystitis	5	11

The best-known and next to pericystitis the most common disturbance of the bladder observed was inflammation of the bladder neck, and this after laparotomies as well as after the vaginal operations.

The most important consideration in the treatment of postoperative cystitis lies in its prophylaxis. The factors of trauma and congestion as predisposing causes can to a large degree be eliminated by the avoidance of manipulation, and separation of the bladder, whenever possible. In those operations, either vaginal or abdominal, in which a dissection of the bladder from its attachments is a necessary part of the procedure, more or less permanent pouching, displacement, infolding of the base, and other abnormalities of the bladder can be avoided by always covering the denuded portions with peritoneum, and by the reposition of the organ by accurate suture to as near its normal position as is possible.

Every measure or remedy which will prevent the conveyance of *B. coli* and other organisms from the lower urethra and vestibule to the bladder should be adopted. The catheter being the commonest carrier of infection to the bladder, its use must be avoided whenever possible and employed only as a *dernier ressort*, under strict asepsis. The use of hot applications over the pubes and perineum, rectal enemata, and the practice of allowing patient either to sit or to stand up to urinate, as advocated by Emil Ries, Mayo and others, should be used.

A very valuable addition to our methods of treating urinary retention has been the recommendation by Baisch,[2] and Döderlein,[12] of the so-called *Blasenlaxans*, or bladder laxatives for the production of spontaneous micturition. These are remedies which, when introduced into the bladder, excite by their local effect vesical peristalsis. The method is an elaboration of the observation made by Baisch, that when irrigation of the bladder was made to destroy the germs introduced by the catheter, the solutions did not disinfect the bladder, but they irritated the bladder sufficiently to produce a spontaneous micturition. Following up this observation, Baisch used on the evening after the operation 20 c.c. of a 20 per cent. sterilized boroglycerin solution (acid. boric. 2 gm. to glycerin. 100 c.c.) injecting it into the distended bladder with a piston syringe and Nélaton catheter without a preliminary catheterization. The first spontaneous micturition follows usually within five minutes after the injection. The method has been further modified by Franck,[13] who employs the solution without the aid of a catheter, simply injecting from 15 to 30 c.c. into the urethra so that from 5 to 10 c.c. will get into the bladder. Spontaneous urination usually follows in about twenty minutes.

We have used the glycerin and boric acid solution, after the method of Franck, for the past six months, using it in a large series of cases of postoperative urinary retention, and can recommend the method as being almost uniformly reliable for both male and female. When the method failed us, and catheterization became necessary, 5 or 10 c.c. of the solution was injected through the catheter and left in the bladder. As a rule further catheterization was unnecessary.

We have found, as did Wertheim and Baisch, that the solution is without effect in cases where the radical abdominal operation for uterine cancer has been performed. After such operations, on account of the extensive dissection of the bladder from its attachments and the separation of more or less of its nerve- and blood-supply, the bladder does not so readily respond to stimuli.

The argument may be urged against the employment of the so-called bladder laxatives, on the same ground as that used against catheterization, namely, the introduction of bacteria during the act of forcing the fluid from the meatus through the urethra into the bladder. With the employment of the catheter there is always some danger of injury to the urethral or vesical mucosa, which injury, plus the introduction of microorganisms, is sufficient to produce cystitis. With the injection of the 2 per cent. boric acid in sterile glycerin we must admit the possibility of forcing organisms backward into the bladder, but as the method occasions no trauma, the development of a cystitis is not so likely to occur. We believe the method to be of sufficient value to warrant its routine adoption before resorting to catheterization in cases of postoperative urinary retention.

CONCLUSIONS

1. Cystitis following surgical operations is not always a cystitis due to catheterization.

2. For the production of a cystitis it is necessary to have a bacterial infection plus retention, trauma and congestion.

3. The colon bacillus is the organism most frequently found in cystitis following surgical operations.

4. According to Baisch, the reason of the presence of colon bacilli in the vestibule and lower part of the urethra is the propinquity of the rectum in bedridden patients.

5. Postoperative urinary retention may be due to a variety of causes. Our cystoscopic examinations show that swelling and edema about the internal urethral orifice is a very frequent cause.

6. Trauma and congestion as predisposing factors to cystitis occur in all operations in which a separation of the bladder from its attachments is necessary.

12. Döderlein and Krönig: Operative Gynäkologie, 1907.

13. Franck, Otto: Glyzerin als Blasenlaxans, Centralbl. f. Chir., 1911. No. 2.

V. 5 1911

7. Cystoscopic examinations after such operations often reveal anatomic malposition of the base, distortion of the trigone, and displacement of the ureteral orifices.

8. Whenever extensive dissection or separation of the bladder is a part of the operation, an accurate reposition and covering of its raw surfaces with peritoneum, becomes necessary. Such operations also require the most rigid asepsis in their after-care, should catheterization be required.

9. The use of a solution of 2 per cent. boric acid in sterile glycerin injected through the urethra, into the bladder, has proved itself of sufficient value to warrant its routine employment in all cases of postoperative urinary retention before resorting to catheterization.

2050 Franklin Avenue—209 Wayne Building.

PERICYSTITIS *

M. L. HARRIS, M.D.
CHICAGO

Pericystitis may be due to an extension of an acute inflammation by continuity or by contiguity from one of the neighboring organs or structures, or it may be due to secondary adhesions causing fixation and distortion of the bladder.

The former variety is quite commonly the result of an extension of a peritonitis of appendicular or tubal origin to the peritoneum covering the bladder. In addition to the usual symptoms accompanying the primary condition, these cases are characterized by pain and tenderness over the hypogastric region, difficulty or even inability to start the flow of urine and pain during the contraction of the bladder as it empties itself. When the bladder forms a part of the wall of an intraperitoneal abscess of appendicular origin or when it lies next to a pyosalpinx, the abscess may perforate the bladder wall and evacuate itself through this viscus as I have seen happen several times.

The rather sudden evacuation of a large amount of pus through the urethra—a symptom which usually repeats itself at irregular intervals as the original abscess refills—with aggravation of the vesical symptoms and the history of the case readily distinguishes these cases from an ordinary cystitis. Fortunately in most of these acute cases of pericystitis the patients quickly recover as soon as the primary trouble has been remedied. Occasionally, however, a case is seen which presents considerable difficulty both as to diagnosis and treatment, as illustrated by the following:

CASE 1.—A woman, 30 years of age, was sent to me with a diagnosis of probable tuberculosis of the hip. She had been sick for several months; was greatly emaciated; had fever constantly; the right thigh was markedly flexed on the abdomen and adducted and there were three discharging sinuses, one near the anterior superior spine, one on the anterior aspect of the thigh just below Poupart's ligament and one on the outer aspect of the thigh just in front of the great trochanter. There was frequent urination with pus in the urine varying considerably in amount.

By injection, the sinuses were traced not to the hip or to the bone but to the right side of the pelvis in the region of the bladder. The uterus was in anterior position and a small mass could be felt extending from its right side, anteriorly to the abdominal wall. The trouble followed a confinement and the patient had been well up to that time. The origin of the trouble was thought therefore to be in the right tube.

On opening the abdomen the right tube was found turned anteriorly, lying between the uterus and the bladder, to both of which organs it was firmly adherent. There was a small perforation between the tube and the bladder and a tract leading from the tube extraperitoneally in the abdominal wall down into the thigh, forming the sinuses above described. The tube was removed, the bladder opening closed and the sinuses curetted. The sinuses closed and the patient made a rapid and complete recovery with disappearance of all bladder symptoms.

Our principal interest in the acute cases lies in the fact that the adhesions which form to the bladder may not disappear with recovery from the primary trouble, but may become organized and remain as permanent bands fixing the bladder to a loop of bowel, the omentum, the uterus or other point, so as to interfere with the normal action of that organ. Such adhesions may form even though the patient gives no distinct history of a previous acute abdominal or pelvic inflammatory trouble, in which case the adhesions are most frequently found fixing the bladder to the sigmoid or to the appendices epiploicæ.

Many of these cases are postoperative in their origin and are then frequently the result of faulty technic. This, however, is not always the case, for, as is well known, peritoneal adhesions may form occasionally in spite of everything that can be done to prevent them. It is to those cases, the result of faulty technic, that attention is here specially directed as they are the ones which should be prevented. The technical errors are either general, such as an imperfect peritoneal toilet, or occur in connection with salpingectomy, ventrosuspensions or round ligament operations.

As illustrating pericystitis from imperfect peritoneal toilet may be mentioned the case of a young woman who had had both tubes and the right ovary removed four years previously. Following the operation she developed tenderness in the hypogastric region, irregular attacks of frequent urination, dragging pain on urination and occasionally a sharp pain when the bladder was emptied. These symptoms were aggravated at the menstrual time. They were so annoying that the patient applied for relief by operation if necessary.

On opening the abdomen the bladder was found adherent to the anterior surface of the uterus. The bladder was peeled off the uterus without much difficulty and in doing so a cyst was opened which contained from 25 to 30 c.c. of a dark-colored fluid. At the first operation a large blood-clot evidently had been left in this location and it had been walled off by the bladder becoming adherent to the uterus. The clot gradually became liquefied, thus forming the cyst. Recovery and relief from the symptoms followed the operation.

In attempting to close over the stump after salpingectomy I have seen the bladder so involved in the suturing as to require a secondary operation to relieve the distressing bladder symptoms.

CASE 2.—In March of this year I operated on a woman who had suffered from painful pericystitis ever since an operation for ventrosuspension, which had been made two years previously. On opening the abdomen the bladder, uterus, omentum and sigmoid were found fixed in a mass to the anterior abdominal wall.

CASE 3.—On May 5 of this year I operated on a young woman, aged 23, who had had her tubes removed in 1907 and a retrodisplacement corrected by a round ligament operation. Ever since her first operation she had suffered with pain in the back and down the inside of the left leg to the knee, frequent urination with a dragging pain above the pubes when the bladder was emptied. Her symptoms were so severe that she requested an operation.

* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

When the abdomen was opened the sigmoid was found adherent to the stump of the left tube. When the round ligaments were drawn out and over the muscles anteriorly, the bladder on the left side had been drawn up with the round ligament and fixed in the opening in the abdominal wall. This so distorted the bladder as to give rise to pain whenever the organ became distended or emptied itself.

I have seen several similar cases in which bladder symptoms have followed operations of this kind on the round ligaments.

The possibility of the bladder becoming involved in these operations is one which should never be lost sight of and the object of this paper is to impress operators on the pelvic organs with the necessity of greater care in the details, lest the patient be worse off after the operation than she was before.

32 North State Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. JACOBSON AND KELLER, AND HARRIS

DR. E. E. MONTGOMERY, Philadelphia: In our earlier work in pelvic surgery I have known many patients who, as a result of the want of proper care in the treatment of the bladder, have suffered from far more distressing symptoms than those for which the original operation was done. These have been cases of prolonged and very obstinate cystitis, oftentimes ineffectually treated for relief. The excellent presentation of this subject by Dr. Jacobson demonstrates the importance of keeping in mind the possibility of infection through the use of the catheter, and the advisability, as he expressed it, of covering the bladder surface with the peritoneum by sewing the peritoneum to the vagina in all those cases in which vaginal hysterectomy is done. The pericystitis is not of infrequent occurrence. We have it frequently in pelvic inflammation. Not infrequently do we find that the omentum is adherent to the bladder. These adhesions persist as a result of infectious processes in the pelvis. It has not been my experience, however, that these cases so frequently result in irritation of the bladder as has been found in Dr. Harris' experience. I have seen cases, especially in puerperal sepsis, in which the infection has extended into the wall of the bladder. In one instance in which I did hysterectomy the mass involved the wall of the bladder and, in attempting to separate what appeared to be a mass of exudate, the bladder was broken into, discharging a large quantity of foul urine into the peritoneal cavity. However, irrigation of the cavity with salt solution and subsequent drainage resulted in restoration of this patient. The cases demonstrate the importance of protecting the peritoneal surfaces, covering over the surface so as to prevent the adhesions which must result in more or less contraction of the bladder and which may result in such deformity as to lead to prolonged irritation requiring operative interference.

DR. W. B. DORSETT, St. Louis: I have been impressed with the frequency of these troubles following operative procedures, so much so that it has been my custom within the last four or five years to make provision for this condition in hysterectomies by the utilization of the broad and the round ligaments to hold the stump of the uterus in position. This is because in three or four patients operated on some time ago there was incontinence of urine and in one or two the enuresis was hard to cure. Many of us think only of the condition for which we operate, forgetting the possible consequences. Therefore, I think we ought to pay more attention to this matter, either by the utilization of the broad or round ligaments or by taking necessary precautions to prevent attachment to the omentum. I remember very well a case in which operation was done for fibroid uterus—hysterectomy—and in which I had subsequently to open the abdomen for this sort of condition—a cystitis which could not be handled by any treatment and in which there was much pain and discomfort, the patient having lost 25 pounds. I opened the abdomen and found that the bladder was adherent to the rectum and to the mesentery, so that quite extensive adhesions had to be broken up. I drew the bladder up and attached it to the anterior abdominal wall and a very good result followed. I believe when we open the abdomen we should provide against unfortunate conditions following these operations.

DR. A. E. BENJAMIN, Minneapolis: The paper by Dr. Jacobson is very important from the fact that all operators get so much trouble after the operation in some of these cases. As one of my patients expressed it before I left Minneapolis, "the subsequent trouble is much worse than the operation." We all admit that we do have complications. In this case there was some acute infection which I did not know about which occurred just previous to the operation; that is, of the urethra and bladder. There are a number of cases brought about from improper technic. As Dr. Dorsett wisely said, "we forget about the possible consequences of improper technic." We should consider, not only the tumor, the appendix, or the tube to be removed, but the possible location of the bladder, particularly after we have done these operations. I have seen operators do an abdominal operation, take out the uterus, pull down the bladder, distorting it, and sew up the wound. We cannot have other than bad results with such carelessness. Regarding Dr. Harris' paper, we have all seen pericystitis cases. Personally I have seen a number of them with adhesions to the bladder and sigmoid. In operating in these cases we should be careful to see that all the positions of the loops of the intestines are in proper location and that there is proper support for the bladder, as has been mentioned, by bringing up the round and broad ligaments so as to make a good support.

DR. J. H. JACOBSON, Toledo, O.: I think it would be excellent practice to have cystoscopic examinations made as a control after most gynecologic operations, particularly after hysterectomy. If the members of the Section will do this they will often be surprised at the amount of traumatism and distortion of the bladder walls present. Such changes do not always produce symptoms but they may be of so striking a character as to lead one to either modification or change in technic.

DR. M. L. HARRIS, Chicago: For the acute cases that occur before we operate, of course, we are not responsible. I wish rather to direct attention to those cases in which the responsibility rests on us, in which we produce the condition by our operations. This is particularly so in operations on the round ligament for displacement. The bladder is in a sense suspended by the round ligaments. If the round ligament be drawn on sufficiently one can always draw the bladder into the abdominal opening through which one draws the ligament. The point of most importance, it seems to me, is that these operations should never be done through a little buttonhole incision. Through whatever hole you may wish to draw the ligament, have an incision sufficiently large to permit an inspection of the parts in order to be certain that the bladder is not drawn on nor distorted.

THE BEGINNING OF OCCUPATIONAL DISEASE REPORTS

JOHN B. ANDREWS
Secretary American Association for Labor Legislation
NEW YORK

In 1911, for the first time in America, six states enacted laws requiring physicians to report cases of occupational diseases. These states are California, Connecticut, Illinois, Michigan, New York and Wisconsin. These laws have many points in common, and most commonly the diseases to be reported are: anthrax, compressed air illness, and poisoning from lead, phosphorus, arsenic and mercury or their compounds. In Wisconsin, for some unexplained reason, anthrax is omitted from this list, and in Illinois the law is obscure, but apparently includes poisoning from "sugar of lead, white lead, lead chromate, litharge, red lead, arsenate of lead or paris green," and "the manufacture of brass or the smelting of lead or zinc."

In most instances the notification by the physician is to include as a minimum the name and full postal address and place of employment of the patient, and the disease. Michigan specifically requires in addition, "the length of time of such employment," and New York adds, "with such other and further information as may be required by the commissioner of labor."

In four states the reports are to be sent to the State Board of Health and thereby transmitted to the department most directly interested in industrial inspection within the state. In Connecticut and New York notification is direct to the commissioner of labor.

In every state except Connecticut there is a penalty for failing to report, but in all states except California and Connecticut, where a fee of fifty cents is allowed, no compensation is paid for reports.

It is an interesting fact that one of the features of this bill which excited most comment among physicians was the provision for the payment of a fee of fifty cents for each report. "It is an insult to offer a medical man a fee for sending in a report to the state," exclaimed many physicians, while fully as many declared that the offer of fifty cents would result in their sending in too many reports.

This pioneer legislation is part of a definite organized effort to arouse wider interest among physicians in the subject of industrial hygiene, and to secure for public use a regular supply of information from those who should be best informed on the subject. For this purpose a tentative bill, based on twelve years of English experience,[1] was drafted and introduced, in 1911, into the legislatures of eight leading industrial states. This bill had been passed unanimously by one house of the Minnesota legislature when adjournment postponed action for two years. In Pennsylvania some legal experts added a clause to one section of the bill and after it had passed both houses of the legislature the governor vetoed it on the ground that this particular new clause made it "unconstitutional." In Illinois where the State Occupational Disease Commission was still at work, no action was taken by the friends of the measure after reaching an understanding that the reporting feature would be included in the commission's bill. With the slight local modifications already noted the standard bill was enacted, and it went into operation in six states during the summer.

The educational campaign resulting in the enactment of this measure included the publication and distribution of a special four-page leaflet on "Reporting of Occupational Diseases." This leaflet included the following statement:

> When the International Congress on Occupational Diseases met at Brussels last September, Dr. Legge, Medical Inspector of Factories in England, read a paper on "Results of Ten Years' Notification of Lead Poisoning." In 1900 more than 1,000 workers in that country were reported as suffering from this occupational poisoning. Last year the number was only 553, although the system of recording each case has steadily improved. In some branches of the dangerous trades in England this occupational poison is now only one-fourth as serious in its effects as ten years ago.

In partial explanation of this striking improvement in the conditions affecting those who work with industrial poisons, the leaflet continues:

> In Great Britain when a practicing physician observes in a patient symptoms which lead him to suspect that there is suffering from industrial lead, phosphorus, mercurial or arsenical poisoning or anthrax, he is compelled under penalty by the government to report the case to the factory inspector. Scientific men in the public service are then in a position to study intelligently the conditions which undermine health, to suggest simple, inexpensive precautions to the manufacturers and to instruct the work-people in the use of measures for the prevention of unnecessary suffering and death.
>
> Every class in the community is directly interested in scientific efforts to conserve the health, vitality, energy and industrial efficiency of wage-earners. This interest is particularly apparent in cases of suffering and inefficiency due to unhealthful conditions of employment in occupations in which deadly poisons are in use.

After briefly summarizing the causes and effects of anthrax, compressed air illness, and poisoning from lead, phosphorus, mercury and arsenic, the descriptive portion of the leaflet concludes as follows:

> In order that the necessary mechanical and other precautions may be taken, the state should be enabled to determine where and how men are exposed to these perils. The state should be advised of incipient cases, so that dangerous conditions may be improved. English experience during twelve years indicates that the most practical and economical method of securing this information is through the enactment of a law requiring every physician treating a case of one of these occupational diseases to report it to the proper authority precisely as he now reports cases of contagious diseases. From the data thus contributed preventive and remedial measures can be intelligently formulated and applied. The American Association for Labor Legislation, in its campaign for the conservation of human resources, invites the cooperation of other organizations in securing uniform legislation on this subject.

This printed leaflet, the final page of which was a tentative bill, was accompanied by additional literature and circular letters and addressed to legislators, editors and members of the Association for Labor Legislation, who added their personal influence to the campaign, and in several instances appeared at legislative hearings to explain the object of the measure.

From the standpoint of the association the real educational work is merely begun with the enactment of these laws. With the arrival of the date when each law went into effect a news notice was prepared for editorial use in that state; additional information, including copies of the notification schedule now used by physicians in England, were furnished on request to officials charged with the law's enforcement.

In New York the law was translated by an Italian editor, and with accompanying explanations it was widely republished among Italian readers. Cases of occupational poisoning incidentally met with in our related investigations are now carefully noted and filed for future reference, or mailed forthwith to the proper state authority.

The desirability of the uniform reporting of industrial injuries in the different states is so apparent to those who wish to make intelligent use of such statistics rather than to merely compile columns of figures, that an effort has already been made to encourage the adoption of a standard schedule.[2] To the rather meager information specifically required as a minimum under the various laws, the state officials are encouraged to add as many facts as possible through the use of more elaborate

1. On the advice of expert medical authority in England only a few of the most clearly defined and most easily recognizable of occupational diseases are included in the beginning. When physicians have become familiar with the purpose and the operation of the law its scope may be extended.

2. A national committee on standard schedule was appointed last September and it is now at work on a plan for uniform reporting.

blanks or by special investigations. One year's experience in securing this information in half a dozen states should indicate whether the standard schedule now in preparation is practicable for general use among physicians. Already, in several states, information of great significance has been secured by state authorities under this law, and individual physicians as well as boards of health are preparing for the study and prevention of occupational diseases.

1 Madison Avenue.

THE VALUE OF PYELOGRAPHY *

W. F. BRAASCH, M.D.
ROCHESTER, MINN.

Accuracy in diagnosis in the urinary tract is largely due to experienced interpretation of cystoscopic and radiographic findings. Although both the cystoscope and the radiograph are of individual value, we are learning to recognize that neither method is complete without the data obtained from the other. Recently we have discovered that the union of the two methods in simultaneous examination has given us a new and valuable field for diagnostic data. This latter method is known as pyelography and consists of the injection of an opaque fluid substance into the ureter and renal pelvis followed by immediate radiography.

During the past three years, at the Mayo clinic, St. Mary's Hospital, we have employed the radiograph of the injected urinary tract in over 500 cases and have come to regard it as a valuable and frequently necessary aid in arriving at the correct diagnosis of conditions in the urinary tract. Its wide-spread adoption as a diagnostic aid seems to have been hindered largely because of a lack of technical facilities and of experience on which the success of the method depends. Objections to its use have been raised on the grounds that it was a dangerous and painful procedure. While the method may occasionally be painful unless carefully employed, it has never, in our experience, caused any permanent injury. Although pyelography should not be used indiscriminately, there is no objection to its correct employment whenever a doubtful radiograph, cystoscopic examination or abdominal tumor perplexes the clinician.

Probably the greatest value of pyelography will be found in its ability to demonstrate the following: (1) the extent and character of dilatation in (a) the renal pelvis and (b) the ureter; (2) the deformity accompanying renal tumors; and (3) congenital anomalies; and finally in the aid it affords in the interpretation of radiographs.

RENAL DILATATION

Mechanical Dilatation.—First considering renopelvic dilatation we find that pelvic distention resulting from obstruction or hydronephrosis can be clearly demonstrated in the radiograph providing a sufficient amount of the undiluted injected medium reaches the pelvis. The dilatation will be readily recognized by the increased size of the pelvic lumen as well as by the broad knobbed shape of the calyces. The greater the distention, the shallower and broader will the calyces appear. The etiologic factors can often be interpreted from the contour of the distention. The mechanical or retention dilatation is distinguished from the inflammatory distention by the comparative regularity of outline as evidenced by the even lines of the free wall and rounded ends of the broad calyces. Elongated or pear-shaped distentions will usually be found due to congenital constrictions, often anomalous renal blood-vessels. Although renal dilatation can often be ascertained by the overdistention method of Kelly, still the injected radiograph will be found more accurate. It is of particular value where the ureteral constriction will not permit the catheter to pass and in demonstrating small distentions of about 25 or 30 c.c. capacity.

Inflammatory Dilatation.—The outline of the inflammatory distention is characterized by marked irregularity. The degree of irregularity will vary with the extent of the inflammatory process. Pyelitis, when recent and of moderate severity, will show but slight changes. Chronic pyelitis, particularly with scar tissue change in the pelvic wall, may show considerable irregular distention. Pyelitis resulting from stones within the pelvis is characterized by the marked irregularity of individual calyces, although the general outline will depend largely on the degree of mechanical obstruction. With the extensive inflammatory changes accompanying pyonephrosis the irregular wide calyces may be seen extending into the farthest limits of the cortex. The pelvic outline may appear fringed with detached shadows of varying size which are caused by cortical abscesses connected with the pelvis. In cases in which the inflammatory process has extended into the peripelvic tissues we frequently find the upper ureter involved. The method will be found of practical value particularly in demonstrating the extent of the inflammatory destruction when surgical interference is not clearly indicated. The demonstration of inflammatory changes in the pelvis may also be of considerable value in the identification of doubtful renal shadows which I will discuss more fully later.

Where a clinical differentiation between pyelitis and renal tuberculosis is difficult, the demonstration of pyonephrosis or of cortical abscesses would identify the latter.

URETER DILATATION

Dilatations of the ureter can be outlined in the injected radiograph and we are thus given a new and valuable aid in the diagnosis of pathologic conditions in the ureter. As in the kidney, ureter dilatation is due to mechanical obstruction, inflammatory retraction or tumor deformity. The dilatation may vary in degree from a scarcely recognizable distention to an extreme sacculation.

Mechanical Obstruction.—Hydro-ureter, or dilatation of the ureter as the result of mechanical obstruction, may be due to stricture, extraneous pressure, bladder retention, and ureteral stone.

1. Stricture: Obstructions to the ureteral catheter may be purely physiologic and will be identified as such by an absence of ureteral distention above. Actual stricture, on the other hand, always causes a dilatation which can usually be demonstrated in the injected radiograph. A common form of stricture is that resulting from tuberculous ureteritis and its demonstration may be of value in identifying the tuberculous process.

2. Extraneous Pressure: As the result of pressure from various pelvic conditions, such as chronic abscess, fibroids, and various tumors, considerable dilatation of the ureter may ensue. This possibility must be borne in mind particularly when the clinical picture is largely that of increased intrarenal tension.

3. Urinary Retention: As the result of extreme chronic bladder retention the ureter may become mark-

* Read in the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

edly distended. This dilatation can occasionally be demonstrated by merely filling the bladder with the opaque medium, placing the patient in the Trendelenburg position and radiographing.

4. Ureteral Stone: The surgeon searching for the ureteral stone looks for the dilated ureter as his guide to its location. This dilatation can be clearly demonstrated in the injected radiograph and when it is seen extending above a doubtful shadow, the distention identifies it as intra-ureteral.

INFLAMMATORY DILATATION

The ureter, like the renal pelvis, becomes dilated to a varying degree as the result of inflammatory changes in its walls. This inflammatory dilatation may follow either a descending or ascending infection. It is usually not so marked or so regular as the distention resulting from mechanical obstruction. It is usually present with every renal infection whether in the cortex or in the pelvis. It may be the sole physical evidence of circumscribed or dormant cortical infections. More or less inflammatory dilatation may be demonstrated in the ureter *below* the stone in the renal pelvis or upper ureter. The dilatation accompanying tuberculous ureteritis is often marked because of accompanying tuberculous stricture and resulting mechanical dilatation. The dilated ureter, so frequently accompanying prostatic enlargement, is probably more often the result of an ascending infection rather than mechanical obstruction.

Tumor Identification.—The injected radiograph is often of considerable value in identifying doubtful tumors of the upper abdomen. Renal tumors frequently occur without either urinary history or findings and are often not to be distinguished through palpation from tumors of neighboring organs. It has been our experience that a distinctly abnormal pelvic outline or other evidences of tumor involvement can be demonstrated in the pyelograph in the majority of renal tumors. The pelvic changes must be well marked in order to be recognizable. They will consist of (1) retraction of individual calices presenting strikingly bizarre outlines, (2) irregular distention of the entire pelvis, and (3) obliteration of the pelvic lumen, partial or complete. Retraction of the upper ureter by surrounding renal neoplasm may be confirmatory evidence. The absence of tumor deformity would in most instances, therefore, exclude a renal tumor. The relation of the injected renal pelvis to an unidentified tumor may also be of differential value.

AID IN RADIOGRAPH INTERPRETATION

Any one who has had considerable experience in interpreting abdominal radiographs will not always regard the presence of shadows as sufficient evidence for the diagnosis of urinary lithiasis. It has been our experience that various extrarenal and peri-ureteral shadows so frequently simulate the shadows of renal and ureteral stone that the majority of radiographs will require further data for their correct interpretation. We have found the cystoscopic data to be of considerable practical value in checking up the radiograph, and employ it at St. Mary's Hospital as a routine procedure. Although the ureteral catheter and the stylet are of considerable aid they may also be misleading, as I have indicated in previous papers. We have found that pyelography frequently gives us the most accurate data in identifying intrarenal and intra-ureteral shadows; particularly where there is no gross evidence of urinary infection. Practically every stone in the kidney will show evidence of inflammatory or mechanical changes in the pelvic outline which can be demonstrated in the injected radiograph. The absence of recognizable irregularity or dilatation of the pelvis or individual calices would be strong evidence that a doubtful shadow is not due to renal stone. If a considerable distance is seen to separate the injected pelvis from a doubtful shadow it would identify the latter to be extrarenal. Not alone will the injected radiograph be of value in identifying renal stone, but it will also be of aid in ascertaining its exact position within the kidney. If the stone is within the renal pelvis it will be obscured partially or entirely, depending on the comparative density of stone and injected medium. If the stone is situated in the cortex its relation to the injected pelvis should localize it precisely.

The majority of stones in the ureter will show more or less ureteral dilatation above it. This distention can usually be demonstrated in the injected radiograph provided that the injected medium can pass the obstruction. We have found this method to be practical in more than two-thirds of our ureteral stones. Inability to get the fluid by an obstruction would identify it to be intra-ureteral. If the injected ureter shows no dilatation at or above a doubtful shadow we can, as a rule, infer that the shadow is not due to stone. The moderate ureteral dilatation often seen below a stone shadow is to be explained by inflammatory changes from resulting chronic infection and it may be of confirmatory value in identifying small stones.

CONGENITAL ANOMALIES

Pyelography is the best and often the only method with which congenital anomalies of the kidney and ureter can be clinically demonstrated. The position of the so-called pelvic kidney is clearly outlined in its relation to the surrounding bony structure. The fused or horseshoe kidney with its pelves adjacent or situated in the same side may be graphically demonstrated. The asymmetrical or solitary kidney is frequently identified by its abnormally large or duplicated pelvis. Various ureteral anomalies, such as duplication and division, can be readily outlined. When the ureter divides after leaving the bladder the division can be demonstrated by inserting a large catheter just within the meatus and injecting. Anomalies in position and course, such as twisted, kinked and converging ureters, may be outlined. Since some complicating pathologic process usually calls our attention to these anomalies, the resulting dilatation or deformity can be demonstrated at the same time in the injected radiograph.

ABSTRACT OF DISCUSSION

DR. E. E. MONTGOMERY, Philadelphia: It has been my misfortune, in the observation of cases in my own hands and in those of other men, to see patients in whom operation has been done on one kidney, to find that subsequently the condition of the other kidney was such as to render the result a serious if not a fatal one. I remember very well a patient in the service of one of my assistants in whose case he felt that, owing to tuberculous disease of the kidney, it was desirable that it should be removed. The kidney was removed, the patient passed no urine during the next forty-eight hours, and at my suggestion he made an incision in the other kidney. He found its pelvis filled with material which had blocked the ureter, and although the kidney was drained the patient succumbed a few days later. I have seen numbers of cases of dilatation of the kidney, a sacculated condition, from pressure of fibroid tumors, which undoubtedly would have been recognized had we at that time known of and practiced the method

of procedure which has been so excellently presented by Dr. Braasch.

DR. H. G. WETHERILL, Denver: The excellent demonstration Dr. Braasch has given us has emphasized one of the methods of more exact diagnosis which is making modern medicine and modern surgery more nearly scientific than it ever has been before. With Dr. Montgomery, I can recall many isolated instances in which more exact diagnosis and more exact surgical procedure would have been possible had we had such assistance as Dr. Braasch has demonstrated to us.

A NEW TONSIL-PILLAR DIVULSOR

L. R. CULBERTSON, M.D.
ZANESVILLE, O.

I have recently devised a pillar divulsor which is a great aid in removing a submerged tonsil. By its use the pillars can be spread apart so that there is no danger of

New tonsil-pillar divulsor.

injuring them; it also gives one a good view while working, and enables one to apply a sponge better. It is useful, besides, in trimming any remnants after using a snare, or in searching for a spurting artery. The points are made blunt so as not to inflict unnecessary injury on the palate muscles.

CULTURES FROM THE THYROID GLAND IN GOITER

A BACTERIOLOGIC STUDY OF FOURTEEN CASES *

JOHN J. GILBRIDE, A.M., M.D.
PHILADELPHIA

The frequent occurrence of hyperthyroidism in certain districts of both Europe and this country, the acute exacerbations that occur in the course of this disease and the occurrence of the disease in several members of the same family are facts of especial interest. Therefore, the study of these cases was undertaken to determine, if possible, whether infection played a rôle in the etiology of hyperthyroidism.

The cultures from these patients, with the exception of that from the first, who was a private patient under my care, were obtained from some of Dr. John B. Deaver's patients at the time of operation at the German Hospital. The primary cultures were made in bouillon and on blood-serum and further carried out on agar, glucose agar, potato, gelatin, litmus-milk, etc. For anaerobic organisms, cultures were made on agar.

The cultures were made according to the method of obtaining cultures from tissues at autopsy—by scorching the outer surface with a hot scalpel, reheating the knife, making an incision and then using a sterilized platinum loop, etc.

In all the following cases, except Case 1, in which I operated, the operations were performed by Dr. John B. Deaver.

CASE 1.—Cystic goiter. Operation at Methodist Hospital, Nov. 15, 1909. Cultures from the thyroid gland and from the contents of the cyst negative.

CASE 2.—Exophthalmic goiter. Operation, Feb. 16, 1910. Culture from the gland resulted in a growth of *Micrococcus tetragenus*. Dr. John M. Swan aided me in the study of this organism.

CASE 3.—Cystic goiter. Operation, March 9, 1910. Culture negative.

CASE 4.—Cystic goiter. Operation, March 14, 1910. Culture negative.

CASE 5.—Cystic goiter. Operation, April 15, 1910. Culture resulted in a growth of the *Streptococcus vermiformis* of Sternberg. Dr. Norman B. Gwyn aided me in the study of this growth.

CASE 6.—Exophthalmic goiter. Operation, April 30, 1910. Culture negative.

CASE 7.—Exophthalmic goiter. Operation, May 28, 1910. Culture negative.

CASE 8.—Cystic goiter. Operation, July 19, 1910. Culture negative.

CASE 9.—Cystic goiter. Operation, Oct. 22, 1910. Culture negative.

CASE 10.—Exophthalmic goiter. Operation, Nov. 5, 1910. Culture negative.

CASE 11.—Exophthalmic goiter. Operation, Feb. 23, 1911. Culture negative.

CASE 12.—Exophthalmic goiter. Operation, May 6, 1911. Culture negative.

CASE 13.—Cystic goiter. Operation, May 6, 1911. Culture negative.

CASE 14.—Cystic goiter. Operation, May 6, 1911. Culture negative.

These cases represent six cases of exophthalmic goiter and eight cases of cystic goiter. A growth of *Micrococcus tetragenus* was obtained in one case of exophthalmic goiter, Case 2; and a growth of *Streptococcus vermiformis* of Sternberg was obtained in one case of cystic goiter, Case 5. In none of the others was a growth obtained.

1934 Chestnut Street.

* Read before the Philadelphia County Medical Society, Oct. 11, 1911.

* From the Laboratory of Clinical Pathology, Philadelphia Polyclinic and College for Graduates in Medicine.

RAPID PREPARATION OF HEMATOXYLIN STAIN

J. A. JOHNSTON, M.D.
Demonstrator of Histology and Embryology, Medical Department, University of Georgia
AUGUSTA, GA.

Every laboratory worker who takes an occasional vacation has experienced the vexation of having no hematoxylin in perfect working order on his return home. By the usual methods of preparing this stain one is compelled to wait several days for the stain to ripen. To eliminate this the following formula may be successfully used.

Hematoxylin crystals	1 gm.	A
Alcohol	10 c.c.	A
Alum	10 gm.	B
Distilled water	200 c.c.	B
Hydrogen peroxid, q. s.		

The hematoxylin crystals are thoroughly pulverized in a mortar and the alcohol added; the alum is dissolved in the distilled water. A is then added slowly with constant stirring to B. When well mixed, hydrogen peroxid is added drop by drop till the color changes to a deep purple. After filtering, the stain is ready for immediate use. The only advantage of this method is the rapidity of preparation. The entire time consumed in preparing a stain ready for instant use is about seven minutes, as compared with several days of ripening by the older methods.

V. 57
1911

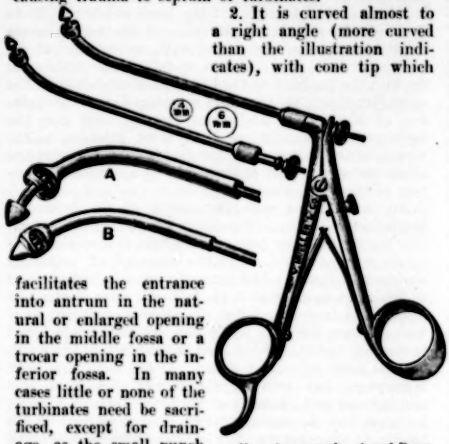
A NEW SINUS PUNCH

W. PERRY REAVES, M.D.
GREENSBORO, N. C.

The accompanying illustration shows a new sinus punch in two sizes, 4 and 6 mm. barrels and cutting edges, changeable, right, left, up and down, with three combined advantages:

1. It is small enough to get into the nose without causing trauma to septum or turbinates.

2. It is curved almost to a right angle (more curved than the illustration indicates), with cone tip which facilitates the entrance into antrum in the natural or enlarged opening in the middle fossa or a trocar opening in the inferior fossa. In many cases little or none of the turbinates need be sacrificed, except for drainage, as the small punch can be passed under the middle and inferior turbinates. This is a great advantage in atrophic rhinitis, in which one wants to save the turbinates, and in acute sinusitis. When necessary to use the larger punch, some of the turbinates will have to be sacrificed.



New sinus punch. A and B represent the tips, actual size.

3. The cutting edge cuts in every direction so the opening can be enlarged in direction of least resistance. Mounted on a small barrel it gives a compact but strong instrument.

This instrument is the result of my many failures to open the sinuses so as not to destroy more of the turbinates than necessary for drainage. It is not really an invention, but the simplification and compacting of the good points of several larger and more complicated instruments which cut forward or backward, and of the Fletcher tack-head punch.

Physicians as Health Educators.—Many of the worst evils of our present-day civilization, dirt, ill health, despondency, pauperism and crime, are in a large part due to the failure on the part of the majority of those trained in medicine to act as leaders and public educators. Health of body and mind should be recognized as of first importance to the community. "They have been so recognized, so far as they have been understood," says Havelock Ellis, "in every great period of civilization of which we have much knowledge, as Roman and Moorish ruins alone suffice to testify. That they are not so recognized to-day is the chief element of rottenness in our civilization. We postpone laying the foundations of our social structure in order to elaborate its pinnacles. We have not yet learned that a great civilization is ill built up on the bodies of men and women enfeebled and distorted by overwork, filth and disease."—C. R. Bardeen in *Science*.

THE DIAGNOSIS OF RETROLABYRINTHINE AFFECTIONS *

H. B. GRAHAM, B.S., M.D.
Assistant in the Ear, Nose and Throat Clinic, Cooper Medical College; Otologist to the San Francisco Association for the Study of Tuberculosis
SAN FRANCISCO

Roughly speaking, otologists, during the period before 1900, were engaged in the problems connected with the diseases of the middle ear, and brought forward such men as Toynbee, Schwartze and Politzer. The ground work for the pathology and therapeutics of the inner ear was well laid during this period by Helmholtz, Cyon, Flourens, Jansen, Breuer, Hogyes and Brown-Sequard. The ten years succeeding 1900 have given us a wealth of literature on the labyrinth, which has served to crystallize our knowledge of its functions and diseases, and methods of handling them, so that our researches have been carried a step farther and we are beginning to acquire a more definite knowledge of the retrolabyrinthine region. Absolute diagnosis in many affections in this region has been and will be impossible until we have acquired a more exact knowledge of the various nerve tracts. The progress, however, has been rapid in the last three years and, judging from the history of our labyrinth affections, we may hope for still more light in the immediate future. I wish to take the liberty here to review the work superficially, and shall not attempt to offer anything original.

A patient comes into the clinic with a ringing in the ears, accompanied by deafness and a history of having taken quinin for some time, and we readily make a diagnosis of toxic neuritis of the cochlear branch of the eighth nerve. Wittmaack,[1] Blau[2] and Haike[3] established the pathology of the intoxications from quinin and salicylic acid as a change in the acusticus and cochlear ganglion followed by a degenerative process in Cortis organ. Wittmaack[4] examined also, pathologically, a case presenting acute deafness without vestibular symptoms, in which he found a degenerative neuritis of the cochlear branch of the auditory nerve, and he says that similar conditions have been observed in atrophy of the auditory where a more marked or exclusive involvement of the cochlear branch was observed. From these researches we may conclude that all the intoxications as from lead, alcohol, tobacco, typhoid, scarlet fever, measles and mumps may produce like symptoms and the vasomotor and central nervous system affections, as epilepsy and diabetes, seemingly belong to the same group.

The diagnosis hinges here on the absence of symptoms from the vestibular apparatus and Wittmaack had these affections particularly in mind when he formulated his postulate that the simultaneous presence of symptoms from the cochlear and vestibular apparatus indicated an intralabyrinth lesion, whereas the absence of the vestibular symptoms pointed to a retrolabyrinth lesion. Ruttin,[5] arguing from this, looked for a case where the vestibular symptoms would be present and the cochlear absent, and he found the following interesting case:

A man aged 26, during health, became suddenly dizzy and fell to the side toward which the head turned; there was vomiting, light headache and continual dizziness, without any

* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Wittmaack: Arch. f. Physiol., 1903.
2. Blau: Arch. f. Ohrenh., lxi, 220.
3. Haike: Arch. f. Ohrenh., lxiii, 78.
4. Wittmaack: Arch. Otol., 1907, xxxvi, 464.
5. Ruttin: Ztschr. f. Ohrenh., 1909, lvii, 4.

noises in the ear or defect in hearing. Drums and functional testing with forks were normal. There was a horizontal nystagmus to the left. Cold water in the left ear caused a disappearance of the nystagmus to the left and in its stead there was a rotatory nystagmus to the right; no dizziness was noticed. Cold water in the right ear did not change the spontaneous nystagmus as might be expected; it remained horizontal and was not increased. There was no dizziness. Turning to the right produced an increased nystagmus to the left which was twice as long as that produced by turning to the left. Patient had a tendency to fall to the right when standing or walking with closed eyes. The symptoms all gradually disappeared and the right ear became typically reactive within nine days.

We thus have two groups of acute cases, one in which the cochlear symptoms are present with an absence of vestibular, and the other in which the vestibular symptoms are present without the cochlear. The space between these two has been filled by those little known groups of polyneuritis of Schönborn and the polyneuritis cerebralis menieriformis of Frankl-Hochwart. The absolute ruling out of an intralabyrinthine affection in these latter is impossible; at the same time one can be reasonably sure that they are retrolabyrinthic in origin.

Schönborn's[6] patient was a man with an acute progressive affection involving both acustici together with the cranial nerves. The man had a diarrhea and nausea without vomiting after a sudden change in the weather. Eight days later he had a slight dizziness and nausea, later a slight left-sided facial paralysis and unclear vision. In a few days he noticed a progressive difficulty in hearing in the left ear. The dizziness grew more pronounced so that he had difficulty in walking. He fell to the left with closed eyes; there was no ataxia, no nystagmus, slight paresis of the left abducens. The hearing of the right ear was affected, but to a less degree than that of the left. All the symptoms gradually cleared up. A hemorrhage into the labyrinths was certainly not present. The nuclei of the facial abducens and acustici could hardly be affected at the same time and not cause more severe and varied symptoms. This leaves only the nerve itself as a factor in the production of the symptoms and a diagnosis of polyneuritis is most plausible.

Frankl-Hochwart's[7] polyneuritis has always been a one-sided affection and has so often been associated with herpes of the face, as in Neumann's[8] case, that it would be stretching a point to look to the labyrinth for anything but a secondary lesion. This affection, as described by Frankl-Hochwart, is that of an acute infection with a one-sided cerebral nerve paralysis and general symptoms from the side of the brain, the chief symptoms coming from the acusticus, facial trigeminus.

The diagnosis of these acute affections is a far different story from that of the chronic affections, some of which exhibit such bizarre symptoms as to render an absolute diagnosis impossible; at the same time we have had additions made to our stock of tests that will be a great aid in the future and which has added much to our knowledge of the relationship between the labyrinth, cerebellum and peripheral nerves and of the comparative values of the two labyrinths and nerves in diseased conditions. Bárány,[9] in a series of articles covering a period of three years, has shown that in intralabyrinthine affections the kinesthetic sense has been in no way interfered with, the body responding in an orderly way to the nystagmus produced, whereas, in those retrolabyrinth affections involving the vestibulocerebellar tract, there is a marked disorder in the motions of the body which accompany the nystagmus. For instance, if one produces a nystagmus, say by turning a normal person to the right with his head erect and to the front, he will fall to the right; if his head is turned 90° to the left he will fall forward; if the head is turned 90° to the right he will fall backward. If the vestibulocerebellar tract has been interfered with, as in tumor of the vermis cerebelli, the direction of falling has nothing to do with the position of the head; he always falls in the same direction. He therefore considers that the hypothesis of Nothnagel, Boelk and Horsley, that the disturbances of equilibrium have some relation to the vermis is not only correct, but that we can diagnose the affections of this part of the brain by a careful observation of these disturbances.

An interference with the cortex of the cerebellar hemispheres, again, will produce an abnormal innervation for the pointing movements of the extremities, thus giving us a valuable aid in the diagnosis of cerebellar abscess and tumor. If a normal person is turned so as to produce a nystagmus to the left and, after locating an object held in front of him, he attempts to point to it with his eyes closed he will point, not at the object, but to the right of it. If his head is bent 90° to the right, he will point below the object. If the right cerebellar hemisphere has been interfered with, the right arm and leg will point directly at the object instead of being influenced by the vestibular irritation or position of the head. At the same time the left hand and leg will point normally, that is, to the right or left of the object, according to the nystagmus.

Those movements dependent on a vestibular innervation which may be corrected by the cerebrum are not interfered with, as for instance, the pointing to portions of the patient's own body. These motions become abnormal only when there is a lesion of the brachium conjunctiva which carries the fibers from the cerebellar cortex through the red nucleus to the cerebral cortex.

Cases exhibiting all these various abnormal movements have been demonstrated at different times, some with pathologic specimens following the clinical observations, so that the results of Bárány's work seem to be pretty thoroughly confirmed.

I have said that we have further aids to differential diagnosis in our tests comparing the two sides. I referred to Ruttin's[10] work in the simultaneous application of the caloric and galvanic tests to both ears instead of to one at a time as formerly carried out. If cold water is simultaneously run into both ears under similar conditions, there should be no nystagmus. If one vestibular apparatus is less sensitive than the other, there should be a nystagmus to that side. The same is true of the nerve in relation to the galvanic test. The kathode, applied to both ears under like conditions, should produce a nystagmus toward that side containing the more reactive nerve. Therefore, if we have a patient with vestibular symptoms, as spontaneous nystagmus or dizziness, or dizziness with forced head movements, and there is no nystagmus on applying the caloric test to both ears under like conditions, and there is a nystagmus on application of the galvanic test simultaneously

6. Schönborn: München. med. Wchnschr., 1907, i, 983.
7. Frankl-Hochwart: Jahrb. f. Psychiat., xxv. See also Berger: Neurol. Centralbl., 1905, 844; Kaufman: Ztschr. f. Ohrenh., xxviii; Hammerschlag: Arch. f. Ohrenh., lii.
8. Neumann: Ztschr. f. Ohrenh., lvii, 330.
9. Bárány: Monatschr. f. Ohrenh., xlv, 505; Brit. Med. Jour., 1910; Wien. med. Wchnschr., 1910, No. 35; 16th Internat. Otol. Cong. Rep., ii, 554; Verhandl. d. Deutsch. otol. Gesellsch., June, 1911.
10. Ruttin: Verhandl. Deutsch. otol. Gesellsch., 1909.

to both ears, we can readily make a diagnosis of retrolabyrinth affection and determine the side that is overactive or underactive. In the application of these tests one has to keep ever in mind the physiology of the vestibular tracts as in cases in which the cerebellum is affected, we may produce by the double caloric a nystagmus to the sound side instead of to the diseased, thus confusing our diagnosis. We must assume the presence of a tract (cerebellar) that acts as a brake on the normal impulses and, when the brake is off that side, will overact, producing a caloric nystagmus to the opposite side. This we see in cerebellar tumor, abscess, etc. It will be readily seen that we have in these tests of Ruttin's the means for quickly ascertaining whether, either the vestibule and semicircular canals, or the nerve on one side or the other, is over- or undersensitive or normal, thus winning one more point in our differential diagnosis.

The attempts of Wittmaack,[4] Manasse,[11] Gradenego and others to differentiate the pathologic lesions in progressive deafness of the internal ear, separating those due to cochlea and those due to the acoustic nerve outside of the cochlea, have not led to very satisfactory results clinically, as in nearly all cases of long standing both elements are affected, if not primarily, then secondarily. The chronic conditions due to hysteria, vasomotor affections and toxemias must certainly be diagnosticated more through their accompanying general symptoms than through the local ear symptoms or functional tests. At the same time, something may be accomplished by a careful history of the local symptoms. Frey pointed out in the Austrian Otologic Society, in a case reported by Braun, that there was enough to diagnose the case as a retrolabyrinth affection in the dissociation of local symptoms. The case was one that appeared with vestibular symptoms and later a mild deafness. The deafness grew worse and the vestibular symptoms better until the latter had cleared up, and a marked deafness remained; this latter disappeared after a month. According to the rule of Wittmaack and Ruttin, the symptoms should place this case in the class of intralabyrinth affections, both cochlear and vestibular symptoms being present, but the dissociation of symptoms, both in time and intensity, here was so marked that there was no doubt about its retrolabyrinthine origin.

I have not attempted to include in this short paper the text-book description of the various affections; my only object has been to gather together the newer work and attempt to stimulate a more detailed examination by the otologist of the retrolabyrinth cases.

ABSTRACT OF DISCUSSION

DR. HUGH FREY, Vienna, Austria: One point Dr. Graham did not completely cover is the differentiation between labyrinthine and retrolabyrinthine troubles. The fact has been established that when we find both the vestibular and the cochlear apparatus involved, the greater probability is that the trouble is located in the labyrinth itself; while, if we find an isolated trouble, in the acoustic, cochlear, or the vestibular part, then the probability is in favor of retrolabyrinthine trouble. The labyrinth is so small that we cannot imagine any material process that will disturb only the vestibular or the cochlear part. Both will be affected. But as soon as it comes to the nervous troubles, either tumors of the acoustic nerve or its surroundings or a circumscribed meningitis, it is not improbable that one part, the vestibular or the cochlear, may be affected, because different parts of the nerves are accessible to pathologic affections. A carcinoma, for instance, may cause paralysis of one nerve and not of others, and so on. This is theoretical. The practical examination of cases shows that they do not appear so clear and pure as this would indicate. But we find many valuable points of differential diagnosis in the symptoms of what I am inclined to call the dissociation function of the eighth nerve. For instance, I had a case in which the vestibular and the cochlear branches of the facial nerve were affected. In another case there was a tumor between the cerebellum and the pons, affecting the acoustic nerve. We would represent that graphically by supposing two lines to represent the normal functions of the vestibular and the cochlear parts. In an affection of the labyrinth itself we would have both functions affected, while in an affection of the retrolabyrinth we would have one disturbed and the other not affected. Sometimes it is difficult to make the differentiation, as when both are affected but at different times. Again, the symptoms may show trouble with hearing. Examining to-day, we would find an easily recognized affection of the acoustic portion but no trouble with the vestibular apparatus whatever. Keeping the case under observation for two or three weeks, the patient would become more and more deaf, say in rheumatism or lues, and then the symptoms would begin to clear up and vestibular symptoms would begin, at first irritative, then nystagmus and affection of the vestibular apparatus as shown by the various tests. And while the hearing apparatus improves, the vestibular apparatus becomes worse; and after the hearing is completely reestablished, the vestibular portion is completely out of function and will recover its function only later on. Of course, this is not true in the case of tumors but more especially in the rheumatic and luetic cases. In the case of tumors, either one or the other would be disturbed much earlier than the second; or, in the troubles of the separate nerves, there will be a dissociation, so that some parts will be slightly, others heavily and others not at all disturbed. Usually the tumors between the cerebellum and the acusticus, fibroma, sarcoma or glioma, start from the inner auditory meatus, which explains why in those cases the symptoms on the part of the acoustic nerve are present earlier than the others. The first symptoms the patient complains of are those of deafness, and later, perhaps a number of months, we have the evidence of brain tumor. This is the case in glioma or tumor of the acoustic nerve. The early symptoms would indicate that these tumors start from the inner auditory meatus, because other tumors similarly located but of a different character do not show the same thing.

I operated on a case in which the tumor was congenital and larger than my fist, but no serious symptoms had appeared. The patient never had any symptoms of disturbance of the vestibular part, and the diagnosis, which could not be absolutely certain before, was really made at the time of the operation, the indication for the operation being given by some tenderness, temperature, etc. But in such a case of temporary posterior aphasia of the kind characteristic of fibroma or glioma, I found the patient was sent to the hospital because she complained of bad sight and an ophthalmologist found a choked disk and sent her to the neurologic and the other departments to find out what the matter was. When she came to me, I could not find anything but a little nystagmus to both sides. I was inclined to think it was due to the hearing, but a more careful examination showed that the vestibular apparatus was not more affected on one side than on the other. We had retrolabyrinthine trouble. The hearing appeared to be intact. Only a short time previously the complete exclusion of the vestibular apparatus had taken place. Her hearing now, for whispering and the watch, was trebled, but only for the lower pitch, so that only three tuning forks were not heard by her. The ones corresponding to normal speech were not touched. It is very necessary in these cases to consider whether both apparatus of the labyrinth are disturbed at the same time and in the same way, or whether they are isolated, either the one or the other in trouble; and whether they are both disturbed but to a different extent or at different times, so that we get this dissociation or inequality

11. Manasse: Arch. Otol., 1907, xxxvi, 477.
A more extensive bibliography will be found in the report of R. Bárány and K. Wittmaack on The Functional Testing of the Vestibular Apparatus in Verhandl. d. Deutsch. otol. Gesellsch., June, 1911.

that will enable us to make a diagnosis of retrolabyrinthine instead of labyrinthine trouble. The indications for operation may depend on this, as well as the results of operation and treatment.

Dr. C. F. Welty, San Francisco: Recently in San Francisco there were reported several cases of cerebellar tumor, and the reporter called attention to the associated symptoms of hearing, nystagmus and tinnitus. I did not see any of those cases, but it is so comparatively easy at the present time to make a diagnosis of a small brain tumor that these things ought to be better understood. The ears show definite findings. I will relate two cases which I have seen within the past two weeks. One was a man of 45 with nystagmus more to one side and increasing headache. On examination he had a vestibule that did not react, and a cochlea that was away below that of the other side. This asymmetry was beautifully illustrated in his case, and the equilibrium disturbances were quite in keeping. In the second case, a man had a furuncle on the outer part of the ear. Three days later he vomited and was compelled to go to bed. He had nystagmus and a complete facial paralysis. His vestibular apparatus was intact. By the use of hot water, his nystagmus was brought back to the same side to as great extent as the opposite side. Either one of two things must be present—a luetic tumor or an abscess. It is essential to study these cases carefully.

THE HYGIENE OF THE SWIMMING-TANK

WILLIAM J. LYSTER, M.D., C.S.
Major, Medical Corps, U. S. Army
POST SAM HOUSTON, TEX.

Artificial swimming-pools have been regarded with skepticism by the fastidious, but the possibility of infection of the water by typhoid carriers brings to the fore a more important question. Colleges have been concerned for the safety of their students mingling in a common bath, and the same conditions prevail in club and public swimming-tanks in most large cities. Swimming as an indoor and winter sport is popular and deservedly so, but at present the popularity of swimming-tanks is ahead of their hygiene.

That typhoid might be acquired in them would seem possible, as water is taken into the mouth at times and sometimes unintentionally swallowed. While usually the organisms found in these tanks will be only those normal to the water supplying them and those likely to be introduced, some pathogenic organisms have been found. Studies less complete than were planned were made during the year at the large modern gymnasium of the University of Pennsylvania with the permission of Dr. Tait McKenzie, in charge of that department. These were principally to learn the deterioration of the water during the week it was used, as measured by the increase in the bacterial content; other observations were, however, also made.

The tank there holding 155,000 gallons is frequented by a large number of students every day but Sunday; bathing begins about 9:30 a. m., and continues into the evenings, the afternoons finding a large number present. The water supplied is from the city mains, having passed through the city filters, but again passed through a patent rapid filter with alum as a coagulant. It will be observed that the second filter is of lower bacterial efficiency than the first. Fifteen hundred gallons were allowed to flow through the tank daily. Every Sunday it was emptied, scrubbed out and then refilled with fresh water.

Samples of water from the main after passing through the local filter, and from the tank, with 1 to 100 dilutions of them, were plated on agar and gelatin. A series of maltose plates was also carried. The samples from the tank were taken daily, the others every other day. Some gas-developers were found, and *B. pyocyaneus* was isolated by Dr. John A. Johnston, who made part of these observations. A summary of the counts for the week appears in Table 1.

TABLE 1.—SUMMARY OF BACTERIAL COUNTS MADE ON PLATES OF AGAR AND OF GELATIN AFTER TWENTY-FOUR AND FORTY-EIGHT HOURS *

Day	Tank	Main	Filter
1	85	25	...
2	340	..	170
3	428	..	7
4	3,000	5	8
5	7,000	..	4
6	50,000	30	20

* Water from three sources, plated in three dilutions—from Monday to Saturday, inclusive. Agar incubated for twenty-four hours.

Some weeks later we undertook to destroy by means of chlorin the organisms in the water, following the published experiments carried on at Brown University. In the first attempt 16 pounds of chlorinated lime, guaranteed 30 per cent. available chlorin, was mixed with half a barrel of water and two-thirds of the supernatant fluid bailed out and thrown into the tank, the inflowing supply of 1,500 gallons per diem being cut off for five days. Table 2 summarizes the result.

TABLE 2.—SHOWING NUMBER OF COLONIES ON AGAR-AGAR PLATES OF WATER FROM TANK BEFORE AND AFTER TREATING IT WITH CHLORIN

Tank Water *	Hours	Undiluted			1-100 Dilution		
		.1 c.c.	.2 c.c.	1 c.c.	1 c.c.	.2 c.c.	1 c.c.
Before adding chlorin solution	24	10	889	594	0	5	3
Before adding chlorin solution	48	500	850	875	0	5	10
15 minutes after adding chlorin	24	0	0	0	0	0	0
15 minutes after adding chlorin	48	0	0	0	0	0	0
45 minutes after adding chlorin	24	0	0	0	..	..	..
45 minutes after adding chlorin	48	0	0	0	..	..	..
2 hours after adding chlorin	24	0	0	0	..	..	..
2 hours after adding chlorin	48	0	0	0	..	..	..
24 hours after adding chlorin	24	0	0	0	..	..	..
24 hours after adding chlorin	48	0	0	0	..	..	..
48 hours after adding chlorin	24	0	0	0	..	..	..
48 hours after adding chlorin	48	0	0	0	..	..	..
96 hours after adding chlorin	24	50,000 per c.c.			..	..	..
96 hours after adding chlorin	48	50,000 per c.c.			..	..	..

* Counts were made at twenty-four and forty-eight hours, being incubated for the former period. Plates were made up with .1, .2 and 1 c.c. of water. The figures show number of organisms calculated to 1 c.c.

Some calcium carbonate was present when the solution was put into the tank, due largely to the crude method of preparation, changing the color of the water sufficiently to be generally remarked; some bathers stated that the water "tasted" and that they smelled something; however, this was not sufficient to be unpleasant nor was it remarked after a few hours.

In the second attempt a much smaller amount of chlorinated lime was used; it was desired to use about one part of available chlorin to two million (1-2,000,000). Exactly 3 pounds of the same chlorinated lime

were weighed and placed in a tin "boiler" containing four buckets of water, which was well stirred and then allowed to settle. Three bucketfuls of the supernatant liquor, which was much less discolored, were siphoned off, and added to the water in the tank. Nothing was remarked by the bathers who shortly after entered the tank, nor was any change in the color of the water observable. Table 3 shows the result of the count on agar for twenty-four hours. It will be noted that this observation was made in the latter part of a week, when the count is high, as is shown in the first table. Readings of the amount of the chlorin in the water at the time the samples were taken are shown.

The calculated amount of chlorin used in the last experiment is believed to be less than is considered safe to add regularly to render some waters potable. Public swimming-tanks should be under the supervision of local health authorities in the same manner that the ventilation of public buildings is.

TABLE 3.—SHOWING THE NUMBER OF COLONIES ON AGAR PLATES OF WATER FROM THE SWIMMING-TANK

Tank Water *	Hours	Undiluted			1-100 Dilution		
		.1 c.c.	.2 c.c.	1 c.c.	1 c.c.	2 c.c.	1 c.c.
Before adding chlorin	24	50,000	∞	∞	3,125	6,250	6,000
Before adding chlorin	48	50,000	∞	∞	.....	.....	.....
15 minutes after adding chlorin	24	250	260	500	.....	.....	.....
15 minutes after adding chlorin	48	350	600	312	.....	.....	.....
2 hours after adding chlorin	24	0	0	0	.....	.....	.....
2 hours after adding chlorin	48	0	0	0	.....	.....	.....
24 hours after adding chlorin	24	160	370	500	.....	.....	.....
24 hours after adding chlorin	48	.....	.....	.....	.....	.....	.....

* Thursday was the day on which this observation was made, when, as is shown in Table 1, the number of organisms is much greater than on Monday, when the tank is first in use. Counts are calculated to 1 c.c. The amount of chlorin is approximately 1-2,000,000.

TABLE 4.—RELATIVE READINGS FOR CHLORIN IN WATER BEFORE AND DURING THE FOREGOING OBSERVATIONS

100 c.c. Sample of Water	Contains of Chlorin, mg.
Before adding chlorin	1
15 minutes after adding chlorin	1.2
2 hours after adding chlorin	2
24 hours after adding chlorin	1.1

CONCLUSIONS

1. Pathogenic organisms may readily find entrance to the water in swimming-tanks by means other than the water-supply, and possibly cause disease.

2. There is a large increase in the number of organisms normal to any particular water, as well as of others, during the period that water is held in the tank.

3. All of these organisms are quickly destroyed by small amounts of chlorin, readily added to the water in the tank every morning before the usual hours of use.

4. The accumulations of hair and other debris observable at the bottom of the tank should be removed daily by small hand pumps, these accumulations affording a favorable nidus for the development of certain organisms and being less readily disinfected than the water.

5. The hygiene of the tank is aided by the construction of troughs at the edges to afford places for expectoration and to prevent water draining back into the tank from the sides. A shower bath should be used before a swimmer enters the common tank.

A NEW OBJECT TEST-CARD, OR KINDERGARTEN CARD FOR VISUAL TESTS

WENDELL REBER, M.D.
PHILADELPHIA

With the increasing practice in the primary grades of the public schools of America of teaching children to read without teaching them the alphabet, the ophthalmologist is confronted with new difficulties in estimating the vision of young children who are brought to him for suspected refractive errors.

During recent years a number of object test-cards have been devised, each one having its own peculiar value. At the time they were introduced their main purpose was to give some idea of the vision in the eyes of very young children with strabismus. This will remain the chief function of all such cards for some time to come, as the three vital facts to be learned in every case of strabismus are the vision, the degree of deviation and the refractive status. Without some idea of the vision in each eye of the young strabismic children (3 to 6 years old), no satisfactory study may be made of such a case. But as I have said, these cards have found a new field of usefulness in the last four or five years and they bid fair to become more and more popular.

A new object test-card, or kindergarten card for visual tests.

The chief points in the construction of any object test-card are that (1) it shall consist of objects readily recognized by little children; (2) the objects should conform as nearly as possible to the accepted scientific standard by subtending the correct angle for a distance of 6 meters. I doubt whether an absolutely scientific object test-card, in the sense just mentioned, will ever be constructed. In the very nature of things, they will have to be approximations. Our main purpose must therefore be to make them the closest approximations possible. This idea was evidently prominent in Dr. Thorington's mind when he brought out his object test-card some years ago, which I have employed with much satisfaction. Some of the objects figured on his card I have used on the one herein illustrated—indeed it would be hard to construct an object test-card to-day without drawing to some extent on the two or three that are already before the profession. No claim for originality is made for this card.

To analyze somewhat the card now shown, the first three objects (the dog, the horse and the cat) are of value because they are almost immediately recognized by even very young children. They can never be made to correspond exactly to the 5-minute or 6-minute angle, but, because of their size, only a small equation of error is likely. The remainder of the objects figured lend themselves more completely to the correct angular construction. The circle or ring is of value in estimating

spherical errors. The flag and window are of value in indicating some variety of rectangular astigmatism, while objects like the star, the scissors and the gate are of value in the indications they give as to some form of oblique astigmatism. Such objects as the hat, the hammer, the hand and the cup are far from being scientifically satisfactory, but some objects must be introduced for variation and these have been found to serve fairly well. They at least serve the purpose of being quickly recognized and named, which cannot be said of the spade, heart, diamond and club figures appearing on some other cards.

1212 Spruce Street.

A SELF-RETAINING POSTNASAL HEMOSTAT

HENRY R. BOETTCHER, M.D.
CHICAGO

The instrument described here has been in use by me and my assistants at the Illinois Eye and Ear Infirmary and in private practice for some time. It is used in all bleeding from the postnasal space, and especially in hemorrhage following adenectomy, which most surgeons make no attempt to control.

It can also be used to prevent blood or fluids from passing into the larynx during anterior nasal operations, in which a general anesthetic is given.

The instrument consists of a cannula 10 inches long, bent up to about a right angle at the small end, over which a small rubber bag is placed and fastened with a silk thread. To the large end of the cannula a rubber tube 6 inches in length, with air-bag attached, is fastened, and the instrument is completed. The cannula has a stop-cock for the purpose of controlling the air.

Insertion.—Immediately after the removal of an adenoid, or any other growth, from the postnasal space, the upright portion of the cannula with the small rubber bag is introduced into the postnasal space, and the air-bag compressed, causing the small bag to fill, making firm pressure on all surfaces. The stopcock is turned, the air-bag detached, the inflated bag left in place two or three minutes, which is enough to check the hemorrhage in the average adenoid operation.

Removal.—The stop-cock is turned, air released, and the cannula with bag withdrawn. The bag should not be inflated beyond the point where it begins to bulge into the pharynx.

It is well to have several small rubber bags on hand in case of one breaking. To keep them clean and prevent them from becoming brittle, they can be kept in a sealed glass jar.

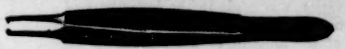
15 East Washington Street.

NEW FORCEPS AND TEST-CARD

FRANK ALLPORT, M.D.
CHICAGO

STRABISMUS FORCEPS

When passed underneath the conjunctiva to pull a tendon into view, the blades of forceps should not allow the tendon to slip from their grasp. Most of them are not dependable in this respect. The instrument here



shown is short, stubby and strong and possesses good teeth. It will hold the tendon securely until it is released by the operator. It is useful in general eye surgery in which there is need for reliable forceps. It is a modification of Stevens' tenotomy forceps.

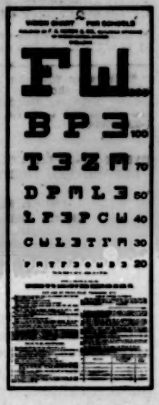
ADVANCEMENT FORCEPS

The only fault of Prince's advancement forceps is that this instrument is not strong enough, and that the tendons frequently slip from its grasp at a critical

moment. I have modified it, as shown in the picture, so that it is much stronger and more reliable. It is generally built on heavier lines and has strong grasping teeth and a reliable catch.

A NEW VISUAL CHART FOR SCHOOLS

This chart is nearly the same as my old chart, but it has an illiterate letter (one for the use of illiterates) on each line, which has been found useful.



The slip containing instructions, by which teachers may examine the eyes, ears, noses and throats of their scholars, is still attached and should be torn off and kept for the teacher's guidance. There are nine simple questions for which the teacher must obtain answers. These questions will disclose the existence of fully nine-tenths of serious eye, ear, nose and throat diseases. If the child is found diseased or defective, a notice is sent to the parent, urging him to consult the family doctor or a specialist, either at his office or free dispensary. The teacher does not diagnose disease or defect; she simply, by the nine questions, ascertains the fact that something is wrong.

7 West Madison Street.

The Ancient Hindoo Physician.—In the "Ayur Veda," whose authorship is by legend attributed to Brahma, and whose date is supposed to be somewhere between the fourteenth and ninth centuries B. C., occurs this about the physician: "He should preserve a healthy body; he should keep his nails and beard short, his body pure, his clothes clean. He should avoid especially any familiarity with women. Transactions in the house should not be bruited abroad. Money will be the recompense bestowed by the rich; friendship, reputation, increase of virtue, prayers and gratitude will be that of the poor."

A NEW SCALP HEMOSTAT

H. J. H. HOEVE, M.D.
DES MOINES, IOWA

To be satisfactory in all conditions encountered in varying scalps a hemostat must meet the following requirements:

1. It must compress the entire thickness of the scalp evenly at the incision with sufficient force to control all hemorrhage, but without bruising the tissues.
2. When applied it must never be in the way of the operator.
3. It must facilitate subsequent work on the skull.
4. It must facilitate the introduction of sutures.

In order to meet these requirements I have devised the hemostat here illustrated. The beaks are placed at right angles to the shanks and present a biting surface of an inch in length, armed with two ridges. They are slightly curved from side to side so as to form a half circle when four to six are introduced. The shanks, but especially the inferior one, are slightly curved in their longitudinal axis with the concavity downward so as to rest easily on the convexity of the cranium. The upper shank passes distally around the lower shank, which necessitates the pulling instead of the pressing of the hemostat in place during actual work. When the hemostat is introduced the wound margins are turned upward and outward and this facilitates the removal of bone, diploic hemostasis and the introduction of sutures; and, finally, all parts of the instrument are at all times out of the way of the surgeon.

Scalp hemostat.

1330 Twentieth Street.

Therapeutics

ANESTHESIA AND ANESTHETICS

(Continued from page 1915)

SCOPOLAMIN (HYOSCIN) AND MORPHIN AS AN ANESTHETIC

The production of surgical anesthesia by narcotic alkaloids dates back, in all probability, nearly two thousand years, and while the earlier uses of these drugs as anesthetics are wrapped in inaccuracies and hyperbole of ancient writings, probably some surgical anesthesia was produced even twenty centuries ago.

Chinese physicians or surgeons in the third century are reported to have produced anesthesia in patients about to be operated on by having them drink infusions of drugs. It is quite likely that the drug most used was the poppy (*Papaver somniferum*) opium.

Herodotus refers to the Scythian method of producing narcosis by having patients inhale the vapor from burning hemp (cannabis indica, East Indian hemp).

In Europe in early times anesthesia seems to have been produced by the administration of extracts or infusions of *Atropa mandragora*, or mandrake, a member of the group of *Solanaceæ*. The narcotic principle of this plant is scopolamin (hyoscin), while a paralyzing effect is produced by another alkaloid, hyoscyamin. Scopolamin or hyoscin is found in *Hyoscyamus niger* (Hyoscyamus, U. S. P.), *Duboisia myoporoides, Scopola japonica, Atropa belladonna* (Belladonna, U. S. P.), and other solanaceous plants. There is evidence that combined poppy and mandrake, representing opium and scopolamin, were used together three or four hundred years ago to cause profound sleep and perhaps for anesthetic purposes.

Dr. John Scopoli first described the action of the alkaloid scopolamin, in 1871, and the name scopolamin was first given to it by Jacquin. This alkaloid is chemically and physiologically identical with hyoscin, notwithstanding the fact that hyoscin and scopolamin are named as separate alkaloids in the United States and British Pharmacopeias, although now in no others. This alkaloid is not stable when kept in aqueous solutions, and may deteriorate with age even in tablet form. Consequently, preparations of scopolamin should be fresh, and solutions should not be made until just before its administration. Deterioration of scopolamin may be shown by a change of color of the tablet, a darkening; or the alkaloid may be contaminated with "apo-atropin," as it is termed. Such tablets are dangerous to use. In other words, only the tablets of reliable and careful firms should be administered to patients in the doses required for anesthesia.

In 1900, Schneiderlin published an article showing that anesthesia could be produced by the use of scopolamin combined with morphin, though more or less of these injections had been used for more than thirty years before.

Scopolamin (hyoscin) has long been used as a hypnotic or quieter, for insane patients. This then led to its more general use as a hypnotic, and finally to its combined use with morphin as an anesthetic. At first very large doses to produce anesthesia were advised. Very large doses are certainly absolutely unjustifiable. Morphin and scopolamin are synergistic, and each intensifies the hypnotic, soporific and anesthetic properties of the other, morphin acting mostly centrally on the brain (it never being a narcotic to the spinal cord, except in paralyzing doses), while scopolamin acts more or less as an atropin, but also as a marked quieter to the central nervous system and generally as a hypnotic (some patients are made wildly delirious with hyoscin). To paralyze the peripheral nerves, in other words to produce a peripheral anesthesia, large doses — dangerous doses—of scopolamin are required, consequently, scopolamin alone could not, except by producing dangerous symptoms, cause anesthesia. Therefore it is only the combination with morphin that can produce or will produce such anesthesia with a minimum of danger. Morphin and scopolamin together act similarly to diminish sensation and cause marked drying of the throat and mouth and bronchial tubes, and combined cause drying of the skin and diminished perspiration.

The most marked antagonistic action of morphin and atropin are on the respiratory center, the morphin dulling the respiratory center and the atropin stimulating it. While there may be some slight action as a respiratory stimulant from scopolamin, its opposing action to the quieting effect of morphin on the respiratory center is slight; therefore the danger from the administration of a large dose of morphin is positively aggravated by scopolamin. Also, scopolamin being a muscle and nerv-

ous depressant, it depresses the action of the respiratory muscles.

The action on the pupil of morphin and scopolamin are opposite, morphin contracting the pupil and scopolamin dilating it, although the effect of scopolamin on the pupil does not last as long and is not as marked as when atropin is used.

The salt of the alkaloid most used hypodermatically is scopolamin or hyoscin hydrobromid.

All physicians and surgeons realize what a large majority of patients who are about to be operated on suffer mentally for at least twelve or twenty-four hours before the operation. Fortunately, quite a proportion of these patients may not actively worry until a few hours before the operation is to occur, but a sleepless night before the morning operation is more the rule than the exception. Some surgeons advise giving these patients sleep with some hypnotic, and some choose a small dose of scopolamin combined with a small dose of morphin. These surgeons often expect, before the operation, to give the patient a larger dose of the same drug to produce partial anesthesia.

As the greatest dread of the operation comes an hour or two before the patient is taken to the operating-room, any method that would quiet him and cause him to become indifferent was welcomed. Also, any method that would diminish the amount of ether or chloroform necessary to carry through the operation was welcomed, the danger from large amounts of ether or from the prolonged use of chloroform being more and more recognized by the profession. Other patients fear the suffocating sensations of the first stage of anesthesia from ether or chloroform (this is not much in evidence if the drugs are properly administered) more than they do the operation. Consequently any method that would put them partially to sleep so that the anesthetic would be inhaled with a feeling of indifference was also welcomed. Again, it is a fact that fear, dread, nervous excitation and sleeplessness all tend to cause a hypersecretion of the thyroid. This throws a nervous stimulant, a cardiac stimulant, and a vasomotor dilator into the blood in more or less large amount, all of which is undesirable before an operation. In view of this danger, some surgeons always administer morphin and scopolamin before even the most trifling operation for exophthalmic goiter.

On account of all these facts many operators have considered it good medicine and good surgery to start an anesthesia with a hypodermatic injection of morphin and scopolamin, after it was so strongly advised by Schneiderlin and others.

Schneiderlin advised, in his first article in 1900, the administration of large doses—doses that appear positively dangerous. His method was also again described in 1905. At the first injection the patient soon becomes drowsy, with respiration and pulse slowed. After a short time, if he can be easily aroused, a second injection is given. In a short time again, if the patient can be aroused, he talks incoherently, the respirations are slowed to ten or twelve per minute, the pulse may be full and bounding, varying from 90 to 120, depending on the patient's susceptibility to atropin irritation. The pupils are dilated. Schneiderlin at times gives a few whiffs of chloroform, later, to intensify the anesthesia, but generally after the third injection the patient is anesthetized for any operation and no other anesthetic is needed.

The patient of course sleeps more or less for the next twenty-four hours after the operation, and Schneiderlin and others have considered the sleep a physiologic one. Of course a narcotic sleep from morphin after an operation, or from a combination of morphin and atropin, to prevent vomiting after the operation is resorted to by many surgeons. The pain from injured nerves is abolished and necessary rest is caused. This method of causing anesthesia, however, in which the patient cannot, at the will of the operator, be aroused, and in which the profound stupor is prolonged after the operation is finished, certainly does not appeal to American surgeons, and we believe it to be unjustifiable.

The method of giving one injection of morphin and scopolamin on account of the condition of the patient above mentioned as a preliminary to ether and chloroform anesthesia is a subject that warrants discussion. The advantages in causing a patient to be drowsy and indifferent and to be easily anesthetized by chloroform or ether, are certainly great, and if the dose is so regulated, as to amount, that profound drowsiness or narcosis from these drugs is not caused, it may be often of great advantage, and is especially indicated in highly neurotic patients.

The disadvantages are not to be lost sight of. During chloroform and ether anesthesia, uncombined with other narcotics, the signs and symptoms of overaction or bad action from these two anesthetics are distinctly and immediately evident. If the pupils are dilated by scopolamin, the anesthetist cannot tell whether his patient is more or less paralyzed by the anesthetic or whether it is due alone to the scopolamin. The patient's face is flushed by scopolamin, and the anesthetist has not the facial evidence of failing heart and failing respiration, the paleness in the one instance and the bluing in the other. If the pulse becomes rapid, over 100, during chloroform or ether anesthesia, the anesthetist realizes that the heart is becoming weak. If the pulse is made rapid by scopolamin, he cannot recognize this coming weakness. If the respiration becomes very much slowed or insufficient from chloroform or ether, the anesthetist cannot tell whether this may not be the morphin that has been administered beforehand that is slowing it. The anesthetist cannot well tell whether he has administered enough ether or chloroform to cause entire absence of dangerous reflexes on the heart when pain is felt from the cutting of the nerves, or whether there is only a partial stupefaction from the morphin and scopolamin.

These objectionable considerations may not become objections if the anesthetist is so skilled and has had sufficient experience in the combination of the alkaloidal and vapor anesthetic as to understand well each symptom and its degree.

Under ordinary circumstances, the administration of a sufficient amount of chloroform to give the patient primary anesthesia is preferable, subsequent anesthesia to be continued with ether, this method preventing the excited, irritable, and suffocated stage of anesthesia (although ether can be administered to the point of anesthesia without causing suffocation). Still the advantages from the morphin and scopolamin injections are many times so great that the following rules may be made:

1. If possible, before the administration of morphin and scopolamin the susceptibility of the patient to each one and to both combined should be learned by their previous administration.

2. The ordinary dose before the administration of ether or chloroform should be from 1/150 to 1/100 of

V. 57 1911

scopolamin hydrobromid, and from 1/6 to 1/4 of a grain of morphin sulphate or hydrochlorate, the dose depending on the age, excitability and susceptibility of the patient.

3. These drugs should be administered hypodermatically one hour before the administration of ether or chloroform is begun.

4. Ordinarily, ether should be the choice for the general anesthetic to follow the alkaloidal injection.

5. Patients who are considered to have hypersecretion of the thyroid, either continuously or acutely on account of the nervous strain and excitation (and this means most neurotic patients), should receive an injection of these alkaloids as a preparation for anesthesia.

6. Only skilled anesthetists should administer the ether after a patient has been narcotized with morphin and scopolamin.

There is certainly no doubt that many patients suffer shock after operation on account of the pain that they endure from cut and otherwise injured nerves. Consequently, patients who have not received the narcotic injection before the operation should, as soon as they begin to arouse from the anesthetic, receive a hypodermatic injection of morphin and atropin, in proper dosage for the age and condition. The atropin does not cause the depression that scopolamin does, and both the morphin and the atropin tend to prevent the nausea and vomiting which is many times so serious after operations.

The satisfaction which the surgeon and the anesthetist feel on seeing a patient begin to revive after anesthesia and operation, begin to take notice, and begin to show cerebral activity is equaled only by the pleasure of the obstetrician in hearing the child cry after its birth. This mental activity and mental awakening of the patient after the combined alkaloid and vapor anesthesia often does not take place for hours. This, then, means that the physician or surgeon, or certainly nurse should watch the patient very carefully for hours, lest the respiration become too slow or the pulse fail.

As elsewhere stated, the administration of nitrous oxid gas to anesthetize as a preliminary to the administration of ether does not meet the approval of the most careful surgeons. The preadministration of chloroform for a short time is very much safer and very much more satisfactory than the oxygen starvation and the carbon dioxid poisoning of nitrous oxid vapor.

For a discussion of "rebreathing" in the administration of anesthetics, see article by W. D. Gatch (THE JOURNAL, Nov. 11, 1911, p. 1593).

RECTAL ANESTHESIA

While in the vast majority of cases requiring anesthesia the inhalation of nitrous oxid, or of nitrous oxid with oxygen, or of ether, or of chloroform would seem to offer ample choice for the surgeon, nevertheless, in a small proportion of cases the inhalation of the anesthetic is attended with certain disadvantages and certain inconveniences to the operator. This is especially true in operations about the face, mouth and throat. Here the presence of the anesthetist with the inhaler seems to offer an increased chance for septic infection of the operation wound. Also, the inhaler over the patient's face often necessitates delay in performing the operation. The surgeon has to wait while the anesthetist renders the patient unconscious and then work rapidly while the effect of the anesthetic remains, and when the patient begins to recover consciousness, has to stop the operation while the anesthetist again produces complete anesthesia.

These considerations have led to the proposal of inducing anesthesia through the rectum. This is not an entirely new idea. It is said that Pirogoff, in 1847, proposed the method, and in the same year several Frenchmen employed it, using injections of ether, pure or mixed with water, into the rectum.

This method was revived in 1884, and in that year Wier and Bull, of New York, and Abnerpost, of Boston City Hospital, practiced the method in a limited number of cases.

In 1892, John H. Cunningham, of Boston, again revived the method, and he and others have made considerable use of it. It is recommended now for use especially in operations of the face, mouth and throat, and in patients who suffer from serious pulmonary trouble, especially pulmonary tuberculosis.

Some of the unfavorable results reported from the use of it are due to improper methods. The patient should be prepared for the operation by giving him a saline cathartic the night before the operation. Early the next morning he should have a high rectal injection of warm soap-suds, and the rectum should again be washed out with warm soap-suds immediately before the operation. The ether is placed in a bottle, of which it should occupy about one-third of the capacity. The bottle holding the ether should be set in a bowl of water, which should be maintained at a constant temperature of 80 to 90 F. Ether boils at a temperature of 96 F., and it is undesirable that it should be brought to this temperature on account of the liability of its condensing in the rectum and causing irritation there. The warm vapor of ether is passed through a tube inserted well up into the rectum, the propelling force being a bulb which forces air into the ether at the bottom of the bottle which then becomes charged with the vapor of the ether as it rises to the top of the bottle. When the injection of ether is commenced, the anal aperture should be held open so as to allow the gas in the rectum to escape, so that the vapor of ether may not be too much diluted. At the close of the administration, massage of the bowels should be employed in order to expel the remaining ether from the rectum.

Shortly after the injection of the ether into the rectum the odor of ether may be detected in the breath. In suitable cases the anesthesia becomes complete in from five to twenty minutes, and after the administration is discontinued, consciousness is soon regained.

The patient should be carefully watched, after he becomes unconscious, in order to observe if the jaw drops and the tongue falls back over the larynx. This accident of course calls for prompt action in order to prevent suffocation.

It has been shown that this method of producing anesthesia with ether may be made perfectly satisfactory and very safe. For plates and description of a very satisfactory apparatus for rectal anesthesia and anesthesia by means of a nasal catheter, see an article by Dr. H. K. Thoms (*Yale Med. Jour.*, May, 1910; abstracted in THE JOURNAL, July 30, 1910, p. 402).

Dr. Cunningham (*New York Med. Jour.*, April 30, 1910) states that rectal anesthesia causes less excitement, less sense of suffocation, less bronchial secretion, and less vomiting than ordinary etherization.

It must not be forgotten, however, that profound narcosis may rapidly develop and is not so easily controlled, and that the absorption of ether is not so readily or immediately stopped, as it is by the ordinary method.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[For other information see second page following reading matter]

SATURDAY, DECEMBER 16, 1911

THE EDEMA OF NEPHRITIS

The appearance of edema is a symptom which of itself demands remedial measures. So long, however, as the genesis of the edematous condition is not more clearly understood we cannot expect to advance far beyond the limits of empirical treatment in any attempted relief. The uncertainty or essential difference of opinion involves the question as to whether the immediate cause of nephritic edemas is to be sought in the kidneys themselves or in some extrarenal factor. Is the inability of the kidneys to secrete water the fundamental feature, or their inability to secrete salts? Salt retention has frequently been regarded as the direct occasion for the attendant holding back of water to preserve an osmotic balance in the organism; von Koranyi has assumed an abnormal distribution of fluid in the body as the occasion for edema formation; while the French school ascribes an indefinite salt-holding capacity to the tissues under these circumstances. Others, again, place in the foreground an altered permeability of the cutaneous blood-vessels.

The last-mentioned suggestion, embodying what Cohnheim regarded as an indispensable requisite, unquestionably plays a most important rôle in the production of localized edemas. The possible significance of the altered conditions of the peripheral blood-vessels and the tissues—the real seat of the edema—has hitherto been overshadowed by the assumed predominant importance of the kidneys themselves. Schmid and Schlayer[1] have attempted to analyze the relative part taken by the non-renal factors in the genesis of edema in nephritis. The kidney factor was excluded in their studies by investigating the capacity of the organism to adjust itself to injections of hypotonic and hypertonic salt solutions under standard conditions in which experimental nephritis with permanent anuria prevailed. It is well known that in the intact organism an exchange of water and salt speedily takes place leading, along with renal activities, to a prompt restoration of osmotic equilibrium. When the work of the kidneys is mechanically interfered with, as by ligation of the ureters or nephrectomy, this regulatory mechanism is upset in the sense of a profound delay in the adjustment. But in the various forms of experimental nephritis the distribution of salt between blood and tissues after complete exclusion of kidney function is decidedly different. The regulatory response varies with the type of kidney lesion involved and according to the nature of the toxic agent applied. The striking feature, however, is the decidedly abnormal permeability of the blood-vessels in some of these instances.

It is a noteworthy fact that many substances which give rise to nephritis harm the vascular system. The injury done to the kidney vessels is only a local expression of the generalized damage inflicted on the entire vascular outfit. Bearing in mind, then, that an altered "tonus" of the tissues may arise, with altered conditions of turgor and elasticity, the consequent edema appears in a new light. Cooperating with the kidney lesion are found the damaged peripheral vessels and the injured tissues—all as a possible result of the action of a common nephritic toxin. Here as elsewhere in pathologic physiology we are dealing with an interrelation of abnormal conditions, of which each is perhaps insufficient by itself to exhibit a harmful effect although the summation may bring them to light. For the moment we must be content to emphasize the existence of highly important non-renal and non-cardiac contributory factors in nephritic edema formation.

1. Schmid and Schlayer: Ueber nephritisches Oedem, Deutsch. Arch. f. klin. Med., 1911, civ, 44; abstr. in THE JOURNAL, Nov. 18, 1911, p. 1729

A NEW METHOD FOR BACTERIAL AGGLUTINATION

Immunity reactions are chemical reactions, and from the beginning of our knowledge of them their manifest correspondence to many of the phenomena and laws of the almost equally new science of physical chemistry, has attracted the attention of investigators. As yet, unfortunately, most of the studies of immunity from the standpoint of physical chemistry have given results that were more suggestive and stimulating than satisfactory.

Some new observations of Leonor Michaelis,[1] however, seem to possess possibilities of immediate practical bearing. The work began with a study of the precipitation of proteins by acids, which disclosed the fact that the precipitation does not depend on the sort of acid employed, nor yet on the quantity of the acid itself, but rather on the concentration of free ions of hydrogen in the solution; all of which seems impractical enough.

The application of this property of hydrogen ions to bacteriology, however, has already given practical results. With the different proteins which are precipitated by acids there is for each a certain characteristic and constant maximum hydrogen ion concentration; this property is just as characteristic as other physical properties, such as the melting-point or the optical rotation, and therefore it can be equally well used for purposes of identification. It also happens that many bacteria can be agglutinated by proper concentrations of acids, and

1. Michaelis, L.: Demonstration of Acid Agglutination of Bacteria, Folia Serologica, 1911, vii, 1010.

V. 5
1911

Michaelis found that the agglutination of bacteria by acids follows the same laws as the precipitation of proteins, there being for each species of bacteria a specific optimum concentration of hydrogen ions which produces the best agglutination. This acid agglutination of bacteria is, if anything, more sharply specific than is agglutination by immune serums. Typhoid bacilli can be distinguished from the various strains of paratyphoid and colon bacilli with the greatest ease, and bacilli so closely related that it is difficult or impossible to distinguish them by serum agglutination, are readily identified by the optimum hydrogen ion concentration of their agglutination by acids. With various strains of typhoid bacilli the agglutinability by acids and serum runs parallel, and so it seems probable that the antiserums and the acids act on the same constituent of the bacteria.

Not only is this discovery important for bacteriology and medicine through its possibilities for practical application and further development and expansion, but it is also valuable in emphasizing the fact that immunity reactions are chemical reactions, and perhaps not such complicated ones as generally supposed, since simple precipitation or agglutination by acids seems to be quite as sharply specific as the immune serums at whose wonderful differentiating powers we have marveled. Also, every contribution which will help the younger generations of scientists and physicians to realize that an understanding of at least the principles of physical chemistry is an essential part of a liberal scientific education, is valuable for that reason if for no other.

DENTISTRY—OLD AND NEW

The gradual accumulation of information with regard to old-time medicine and surgery has brought a general realization that in the broader outlines of these departments of medical practice there were many remarkable anticipations of modern developments. Dentistry, though considered peculiarly modern, has been found highly developed in the past. Many alleged interesting dental discoveries among the old Egyptian remains have been very hard to verify, and no specimens are now available to confirm the reports of a generation ago as regards filled teeth and various prosthetic apparatus. What has thus been lost with regard to old Egypt, however, has been more than compensated by discoveries in old tombs in other countries. The actual specimens of ancient dentistry may be seen in various European museums.

The most interesting of these specimens, because the oldest, is a Phenician example of bridgework found in a tomb at Sidon. The specimen is now in the Louvre at Paris and consists of a part of the upper jaw of a woman with the two canines and the four incisors held together by gold wire. Two of the incisors are transplanted teeth fastened in by gold wire. Guerini[1] calls attention to the fact that a form of dental prosthesis similar to this of the old Phenicians is practiced by the Hindoos at the present time.

The next most interesting development of dentistry occurred among the Etruscans, whose culture far surpassed that of the Romans for many centuries. In the museum of Corneto (which was the ancient Tarquinii, the capital of the Etruscan federation) may be seen a number of marvelous specimens of dental prosthesis of the sixth and seventh centuries before Christ. They consist mainly of bridgework done by riveted bands of metal. One of them supported three artificial teeth, two of these artificial teeth being made out of a single ox-tooth grooved to imitate rather closely two human teeth. Guerini says that he was never able to find an ox-tooth not worn away by mastication until the idea occurred to him of sectioning the upper jaw of a calf at about the age of the second dentition and taking out the teeth which were already strong and well formed, but not yet worn by mastication. He thinks that his Etruscan colleague must have done the same thing about 2,500 years ago when he made the prosthetic apparatus described. There are nearly a dozen of these specimens in various Etruscan museums.

In the laws of the twelve tables written in Rome 450 B. C., while it is expressly forbidden to bury gold ornaments with bodies, a special exception is made for gold with which the teeth may perchance be bound together. The Museum of Pope Julius at Rome contains "a gold cap made of two small plates of gold stamped out to represent rather closely a middle lower incisor and these two pieces soldered together to form the crown of a tooth." Guerini, who was asked to collate all these specimens by the Italian government, declares that this is a typical example of crownwork.

The satiric poets of Rome, especially Martial, refer frequently to artificial teeth. Martial speaks of an old woman who was so scared that as she ran away her teeth fell out. In one epigram he answers the question why one woman's teeth are dark, while another's are white, though both are of the same age, by saying that one of them buys her teeth, while the other has her own. The Romans had a number of different kinds of dentifrices, and took great care of their teeth. Galen describes a form of pastille containing aromatics and opium that might be used as a toothache gum. The filling of teeth with various kinds of metal is described by Celsus, though the first sure reference to gold filling does not occur until about the middle of the fifteenth century. The transplantation of teeth, especially from the mouths of slaves into those of their mistresses, seems to have been practiced rather commonly in the early days of the Roman Empire.

In ancient dentistry are foreshadowed many dental devices which are generally considered peculiarly modern; and we have the actual specimens to illustrate the mechanical skill of the old-time dentists.

1. Guerini: History of Dentistry, Lea and Febiger, New York, 1909

QUALITY VS. QUANTITY IN MEMBERSHIP OF MEDICAL SOCIETIES

"Straining every effort to secure the enrollment of every man bearing the title of M.D., regardless of his character, scientific attainments or methods," is a mistake. The policy of granting membership in a medical society to a "crooked stick" in order to straighten him out is like that of the girl who marries a man to reform him; it does not pay. Thus runs the argument in a good editorial in a recent number of one of the state journals.[1]

The recent improvement in medical education, to which the Council on Medical Education of the American Medical Association has largely contributed, has raised the average intellectual grade of medical men. But it must not be forgotten that an educated man can be a rascal and of more harm to society because of the education which he misuses. Consequently, in addition to a proper medical education, a good moral character should be an indispensable requirement, not only for obtaining the doctorate, but for good standing in the profession as well. While the medical society is not a reformatory, it is responsible both to the public and to the profession for the conduct of its members. Every component society must guard its membership, both by carefully scrutinizing the character of those whom it admits and by continually requiring its members to make self-interest subservient to public good.

Effective means toward this end are furnished by the judiciary body or board of censors provided for each society in the approved plan of the organization. The members should insist that this court be active, should provide it with sufficient means and should give it such loyal support as will insure a fair trial and a just verdict in every instance in which a violation of professional trust is alleged. When these judiciary bodies shun "star chamber" sessions and welcome the broadest publicity in their actions, when their rulings uphold the dignity of the profession and the welfare of the public rather than the interests of individual members of the profession, the organization will merit and will receive the approval of the public in its efforts to maintain quality in its membership.

Every society that has taken action on unethical practices has condemned them and declared those guilty of them unworthy of membership. It remains to be demonstrated whether the organization which as a body approves ethical standards, disregards or sustains them by the actions of its individual members; in other words, whether or not it is a disciplined society in which each member subordinates his personal interests to the common cause.

Organization should be thorough; every doctor of medicine should be in its ranks. It is even more important than this, however, that every member should be loyal to the ideals of the organization, honorable in his personal and professional conduct, active in promoting the welfare of his profession even when it involves the sacrifice of personal gain—in short, that he should be a gentleman. Quality in membership is of prime importance. Quantity, while desirable, is decidedly subordinate in value.

The editorial referred to is timely and we are sure that the organization is alive to its warning.

1. Jour. Med. Soc. New Jersey, November, 1911.

CUI BONO?

Last week we referred to the well-founded criticism of a correspondent that so long as men high in the profession will not only tolerate advertisements of fraudulent proprietaries in medical journals, but will actively support such journals by contributing to them, just so long will the proprietary evil flourish.

Since that time, a concrete example of the abuse to which our correspondent referred has come to notice. It is but one of many that could be given—and of many that probably will be given—and is in no way singled out for the purpose of discrediting the particular journal involved. On another page[1] we deal with this matter more specifically. There is shown the unedifying spectacle of some of the leading members of our profession "featured" as contributors to a medical journal whose advertising pages fairly bristle with pharmaceutical frauds and humbugs, many of which have been exposed in THE JOURNAL of the American Medical Association. Nor is this all. The names of these men—names that command the respect and admiration of the profession—have been further used by the journal in question as a commercial asset to obtain subscriptions. Circular letters have been sent broadcast notifying the profession that articles by these men would appear in certain issues. In this way the names of physicians who, we believe, are at heart opposed to the fraudulence connected with the proprietary evil, are used to strengthen and further the very evil against which they should protest.

The editors and proprietors of the journal referred to are not alone to blame for this condition of affairs. Pharmaceutical frauds can flourish only so long as they can be given publicity, and the exploiters of such frauds, knowing this, are willing to pay well for this publicity. It is evident that the proprietors of such medical journals as those under discussion consider serving the medical profession as a matter incidental and secondary to that of making a commercial success of their publications. Their advertising pages permit of no other conclusion. And, from a business standpoint, why should they not cater to medical frauds if, by so doing, they do not jeopardize either their subscriptions or the high class of their contributions? The attitude of such publishers seems to be: If the medical profession is indifferent to this sort of double-dealing, why should

1. Propaganda for Reform department: Medical Journals and The Great American Fraud, page 2013.

V. 5
1911

we take a stand in advance of the procession? Commercially, the attitude is a perfectly logical one.

In all seriousness, do the members of the American Medical Association want the propaganda for reform in proprietary medicines to be continued or do they wish to see therapeutics slip back into the unscientific and chaotic condition that existed before the fight against fraudulent proprietaries was started? This much is certain: no reform instituted too far ahead of public opinion ever was successful. So likewise no therapeutic reform can be a success that is very much in advance of the wishes of the medical profession.

The men forming the Council on Pharmacy and Chemistry have served, with no recompense save that which should come from the consciousness that the medical profession approves and endorses their work, at a thankless, time-consuming and thought-demanding task, and that endorsement and approval has not been forthcoming—except as expressed in mere empty words. On the contrary, these men have been abused and vilified, their work has been belittled and every attempt made to discredit them by those powerful interests that have for years battened on the credulity of the medical profession.

For nearly seven years the fight against proprietary frauds has been waged. What are the visible results of this campaign? The chief one is the unprecedented commercial success of those medical journals whose advertising pages are open to anything that will not debar them from the post-office. In other words, the work of the Council on Pharmacy and Chemistry has resulted in driving every pharmaceutical fraud into the advertising pages of those medical journals that are published "for revenue only." And so long as physicians will subscribe for, contribute or in any way give professional recognition to, such journals, so long will those frauds stay there.

We shall have something more to say on this subject in succeeding issues of THE JOURNAL. The time has come when those who are in the front must know whether or not the medical profession wants this fight continued, and, above all, whether its members are willing to make some sacrifices themselves.

Current Comment

MILK SECRETION IN THE NEW-BORN

We recently[1] discussed the factors concerned in milk secretion, pointing out the dominant rôle which hormones derived from various organs have in this process. Recent experiments of Basch[2] supplement this work in an interesting way. Basch investigated the secretion of milk which occurs in the new-born of both sexes, and which is known as "witches' milk"; this name, which dates back some centuries, evidently refers to the mystery surrounding such a purposeless secretion. As long as the view prevailed that the secretion of milk was entirely under the control of the nervous system, which adapted it to a specific purpose, this secretion in the new-born seemed inexplicable; now, as Basch points out, it seems but logical to conclude that the same factors determine the secretion in the mother and in the offspring. Basch put this hypothesis to experimental test: he injected extracts of placenta into children in whom the milk secretion had ceased; the result was a renewed secretion. The same result had been obtained by this author when placenta extracts were injected into adult animals which had at one time lactated. The author concludes that the "witches' milk" is simply due to the passage into the fetus of some of the hormones circulating in the blood of the mother. Basch suggests the possibility of making a practical application of a study of this secretion: he found a close parallelism between the activity of the mammary glands of the mother and those of the child; if the latter were especially active, those of the mother were also and it could be predicted that the mother would prove to be a good nurse. Thus one of the "curiosities" of medicine is not only rendered intelligible but may prove of some value.

1. THE JOURNAL A. M. A., Nov. 18, 1911, p. 1600.
2. Basch: München. med. Wchnschr., 1911, lviii, 2206

THE BINET SYSTEM OF TESTS FOR MENTAL RETARDATION

It was recently reported that Dr. Max G. Schlapp, the neurologist of the New York Society for the Prevention of Cruelty to Children, demonstrated that a lad of 14 years, a ward of the Children's Aid Society, whom he examined by the Binet tests, was mentally of the "Binet age" of 9. The boy had been arrested on the charge, preferred by his mother, of associating with juvenile thieves. The judge of the Children's Court, on consideration of Dr. Schlapp's report, found the boy neither criminal nor idiot, but merely retarded in his development because of unfavorable environment. Instead of putting him into an institution for the feeble-minded, therefore, the judge returned the boy to his mother, on her promise that she would place him on a farm. The officials of the Children's Aid Society, much gratified by the outcome of this case, declared that they would have the Binet tests used in future for all children suspected of criminality or idiocy. These tests were devised by Alfred Binet, director of the psychologic laboratory of the Sorbonne, whose death was recently reported by our Paris correspondent.[1] They are already in use in several institutions for defectives in this country, such as the Lincoln (Ill.) State School and Colony, the New Jersey Institution for the Feeble-Minded at Vineland, etc. They consist of a series of standard questions and commands, worked out on a scale of increasing difficulty. The responses to those for a given age are supposed to be within the power of an average normal child of that age. Whatever the age of the abnormal child may be (say 10 or 12), its "Binet age" is indicated by the grade of the questions which he can answer correctly. Thus, an abnormal child of 10 years may have a Binet age of 2 or 3. For instance, a normal child of 3 should be able to give his family

1. THE JOURNAL A. M. A., Nov. 11, 1911, p. 1627.

name; he should be able to point to his nose, eyes, mouth; to repeat "it rains"; "I am hungry," and be able to answer the question "What is this a picture of?" At 4 the child should distinguish between lines of different lengths; at 5, between objects of the same size, but of different weights; at 6, he should know the difference between his right and his left hand; at 7, the value of coins. The tests instanced, of course, are merely illustrative of the method. The questions, though they may seem arbitrary, were selected after a long sifting process, and are apparently very serviceable.

THE BANISHMENT OF THE COMMON DRINKING-CUP

Public sentiment is a strange and elusive force. It sometimes fails to respond, in spite of every effort to arouse its interest in a worthy cause. Again, it suddenly asserts itself, without any known reason. One of the strangest of recent manifestations of this force of public sentiment is the present crusade against the common drinking-cup. For years, physicians and sanitarians have urged the danger and the filthiness of common drinking utensils. With few exceptions, their words seemed to fall on deaf ears. The public, apparently, was not interested. But suddenly, without any manifest reason, the point of saturation seemed to be reached. Crystallization of public opinion began. States began to enact laws, and cities to pass ordinances abolishing the common drinking-cup in all public places. State after state took it up. There was no concerted movement; there was scarcely any organization behind it; there was little special effort needed. The people had evidently made up their minds that common drinking-cups were bad and must go. So they have abolished them in at least twenty-four states in a little more than one year's time. These states are California, Colorado, Connecticut, Georgia, Idaho, Illinois, Iowa, Kansas, Louisiana, Massachusetts, Michigan, Minnesota, Mississippi, New Hampshire, New Jersey, New York, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Dakota, Utah, Vermont and Washington. Doubtless the other states will act as soon as they have an opportunity. The moral is: Saturate the public with facts, and when the people are convinced, they will act.

THE COMING JOURNALISM

The *University Missourian* is a daily paper published by the School of Journalism of the University of Missouri. If this school turns out graduates who will conduct newspapers that are as clean and as unafraid of the truth as is the *University Missourian*, we predict that the school of journalism at that institution will be of greater value, not only to Missouri, but also to the United States, than any other department of the university. Read this editorial from a recent issue of the *University Missourian*:

"A Pennsylvania court recently convicted a woman on a charge of selling soothing syrup that contained morphin. For forty years this brand of 'dope' had been on the market. Physicians claim that the dose recommended was four times as large as a physician would dare give a baby of fifteen months. Grown people who wilfully take quack medicines are undeserving of sympathy. So thoroughly has the doctrine of pure food and pure medicine been disseminated that there is no excuse for the taking of nostrums. The mere thought, however, of such near-poison being stuffed down the throat of helpless infancy is enough to incite violence. Were a fiend to pass through the country depositing morphin or cocain in water or food where we must unconsciously take it into our systems, detection would mean lynching. Putting such dope under a false guise and a false label is no less a crime. Insanity might offer an excuse for the first named offender, but in the second case greed for gold is the only explanation. Murder is murder, whether death comes red-handed or lurks disguised inside the falsely labeled bottles of 'soothing syrup.' Mrs. Belle Gunness of Laporte, Ind., was no more a murderess than some well-esteemed ladies that have lent their names to 'syrups' and quack medicines that add to the population of our cemeteries."

Only the truth, physicians will say. Merely facts known by medical men for years! True, but how rarely do newspapers expose the viciousness of "patent medicines" and how few of the general public know the facts here given!

CONTROL OF OCCUPATIONAL DISEASES

A summary of legislation on occupational diseases, by Mr. John B. Andrews, secretary of the American Association for Labor Legislation, is published in this issue. While it may not be gratifying to our pride as a nation that the oldest law we have on this subject is less than one year old, it is encouraging to know that during 1911, six states (California, Connecticut, Illinois, Michigan, New York and Wisconsin) passed laws requiring reports on diseases resulting from occupations. The diseases that must be reported are anthrax, compressed-air sickness, and poisoning from lead, phosphorus, arsenic and mercury. This is only a beginning, but through the cooperation of sanitarians, economists, physicians and labor unions, such a law should be enacted in every state. Publicity, the remedy which has been so effective in curing other social ills, will make short work of occupational diseases, once the extent of their ravages is known.

A COMMISSION TO INVESTIGATE THE VACCINATION QUESTION

The value of vaccination in the prevention of small-pox has been regarded, in the minds of intelligent and reasonable persons, as proved. Evidently the Pennsylvania legislature regards the question as one deserving further investigation. In accordance with a bill passed last year, Governor Tener has appointed the following men to constitute the Pennsylvania State Vaccination Commission: Drs. Jay Frank Schamberg and William H. Welch, both of whom are regarded as thoroughly acquainted with small-pox and all that relates thereto; Porter F. Cope, secretary of the Antivaccination League of America, and of the Antivaccination League of Pennsylvania; John Pitcairn, "who has spent a great deal of money in the antivaccination campaign"; Ex-Governor Samuel W. Pennypacker, who prior to his election as governor was presiding judge of the Court of Common Pleas, Philadelphia; George Wharton Pepper, a lawyer of national reputation; and Emil Rosenberger,

a lawyer and financier. This commission is to study the "history, nature and pathology" of small-pox and of vaccination; the means to be used for diminishing the prevalence and mortality of small-pox; the original source from which the vaccine virus now in use has been obtained; the method of preparation; and other matters pertaining to small-pox and its treatment. The commission is required to make its report to the legislature on or before Feb. 1, 1913. It will be interesting to see what kind of a report this commission will make. Two of the members are extreme antivaccinationists; in fact, they may be called the leaders among the antivaccinationists in this country. It is exceedingly fortunate that the antivaccinationists are represented on this commission by two such ardent adherents. It will now be necessary for them, in order to make out a case against vaccination, to present facts instead of the favorite brand of antivaccination fiction which has heretofore passed current for argument. At least two of the lay members of the commission are trained in weighing evidence, and the entire commission will doubtless insist on having facts and official records as a basis for all statements. The work set for this commission is most important, and it should not hesitate to get all the facts. We are not informed how much money has been appropriated for this commission, but it should be sufficient to make the investigation thorough in every particular. The question is an important one, not only to the people of Pennsylvania, but also to those of the whole country; and the truth should be established beyond question, no matter what the cost. The appointment of this commission is at once a challenge and an opportunity. If it cannot be demonstrated to the satisfaction of three unprejudiced laymen that vaccination is harmless and that it effectually prevents small-pox, then the state has no right to require the citizen to submit to it. If it can be so demonstrated, as scientific men have always insisted, then all opposition to its compulsory enforcement should cease. Let the Pennsylvania commission decide it and let the truth prevail.

Medical News

ALABAMA

Coal Operators Study Conditions of Employees.—The Alabama Coal Operators' Association during the last two years has given considerable attention to the subject of accident prevention both on the surface and underground. This work has been supplemented by the organization and training of a number of first-aid corps. At the annual meeting of the association in August the subject of tuberculosis was given special consideration, particularly those features relating to its prevention and cure in its early stages. In extension of this general policy the association has just had made a social and sanitary survey of the coal mining camps represented in the organization. The work as outlined is rather comprehensive, embracing housing conditions, drinking-water supplies, closets, sewage and garbage disposal, etc. The rather difficult problems of education and recreation will also be given proper consideration. As a result of concerted effort along these lines, it is hoped that living conditions throughout the state will be improved. This is perhaps the first instance noted in which the operators of any important district have undertaken such a concerted and scientific study of camp life.

County Society Elections.—At the annual meeting of the Tallapoosa County Medical Society held in Dadeville, November 23, Dr. James O. Griffin, Hackneyville, was elected president; Dr. Aaron L. Harlan, Alexander City, secretary; Dr. Neil B. Dean, Alexander City, treasurer, and Dr. Joseph W. McClendon, Dadeville, county health officer.——At the annual meeting of the Etowah Medical Society held in Gadsden, December 6, Dr. Charles L. Guice was elected president; Dr. Eli S. Jones, censor, and Dr. Ira C. Ballard, county physician, all of Gadsden.——Madison County Medical Society at its annual meeting held in Huntsville, December 4, elected Dr. Isaac W. Howard, Maysville, president; Dr. Marion R. Moorman, Huntsville, vice-president; Dr. Edgar Rand, secretary-treasurer (reelected); Dr. Thomas E. Dryer, Huntsville, county health officer, and Dr. Benjamin E. Graham, Gurley, censor.——Limestone County Medical Association held its annual meeting in Athens, December 4; reelected Dr. Henry A. Darby, president, and Dr. Benton S. Pettus, county health officer; and elected Dr. John S. Crutcher, Athens, vice-president, and Dr. Charles O. King, secretary and treasurer, all of Athens.——At the annual meeting of the Jefferson County Medical Association held in Birmingham, December 4, Dr. Wellington P. McAdory, Birmingham, was elected president; Dr. Thomas I. Conwell, Bessemer, vice-president, and Dr. Charles E. Dowman, Birmingham, secretary and treasurer.

ARKANSAS

District Society Reorganized.—The First Councilor District Medical Society was reorganized at a meeting held in Paragould, October 31, and the following officers were elected: president, Dr. Gus A. Warren, Black Rock; vice-president, Dr. Black, Pocahontas, and secretary, Dr. Oliver A. C. Wilson, Paragould. The society was entertained by the Greene County Medical Society.

ILLINOIS

North Shore Contagious Disease Hospital.—Eighteen physicians of Evanston and North Shore towns met in Evanston, December 4, to discuss the feasibility of the organization of a North Shore Contagious Disease Hospital Association. Dr. M. Gilroth McEwen, Evanston, presided over the meeting and a committee was named to formulate plans for a future meeting.

Society Meetings.—At the annual meeting of the North Central Medical Association of Illinois, held in Dixon, December 5-6, Dr. Thomas W. Burrows, Ottawa, was elected president and Dr. George A. Dieus, Streator, was reelected secretary and treasurer. Pontiac was selected as the next place of meeting.——The La Salle-Peru Medical Society held its annual meeting in Peru, December 5 and elected Dr. Walter W. Greaves, La Salle, president; Dr. Otto Balensiefer, Peru, vice-president; Dr. Frederick A. Guthrie, La Salle, financial secretary, and Dr. Bert E. Fahrney, La Salle, corresponding secretary.——East St. Louis Medical Society, at its annual meeting, December 5, elected Dr. George A. Stewart, president; Dr. John H. Fulghan, vice-president, and Dr. Charles E. Hill, secretary-treasurer.

Antituberculosis Societies Formed.—The Madison County Branch of the Illinois State Medical Society for the Prevention of Tuberculosis was organized in Alton, November 24. Mayor J. C. Faulstich, Alton, was elected president and Dr J. Bernard Hastings, Alton, secretary, and the following physicians were elected members of the executive committee: Drs. Frederick E. Tulley, Granite City; Lay G. Burroughs, Collinsville, Albert F. Kaeser, Highland, and Edward W. Fiegenbaum, Edwardsville.——The Livingston County Antituberculosis Society has been organized at Pontiac, with the following physicians as vice-presidents: Drs. Charles L. Hamilton, Dwight; Hiram M. Presler, Cullom, and Kinney, Odell.——At a meeting of the board of managers of the Winnebago County Association for the Prevention of Tuberculosis at Rockford, Dr. William H. Fitch, Rockford, was elected president; Dr. Sanford R. Catlin, Rockford, vice-president, and M. R. Harned, secretary.

Personal.—Dr. Charles F. Reed has been transferred from the Watertown State Hospital and has been appointed as assistant superintendent of the Kankakee State Hospital.——Dr. George J. Schneider, president of the Elgin Physicians' Club, was presented by the club with a large leather rocking-chair, December 4.——Dr. John H. Rice, Quincy, has started on a trip around the world by way of the Pacific.——Dr. David W. Jump, Plainfield, who has been seriously ill, is reported to be convalescent.——Dr. Frank W. Rulien, Joliet, who has been seriously ill in a hospital in Chicago, is reported to be convalescent.——A fire in Knoxville destroyed the office furniture and equipment of Dr. Thomas W. Thomson, December 2.——Dr. William A. Brittin, Virden, who was operated on for appendicitis in Springfield, recently, is reported to be convalescent.——Dr. Thomas M. McIlvaine, Peoria, slipped on the ice, November 29, sustaining a severe scalp wound.

INDIANA

School Medical Directors Appointed.—The school board of Gary has appointed Drs. Charles W. Yarrington, Calumet, Mich., and Caroline Lawrence, Philadelphia, as medical directors of the public schools of the city.

Staff Additions.—The following additions to the staff of the Indianapolis City Hospital are announced: Dr. Nathan D. Woodard, internal medicine; Drs. Thomas C. Kennedy and Leonard A. Ensminger, alternates in surgery; Dr. Harry K. Bonn, assistant alternate in genito-urinary diseases; Dr. Charles D. Humes, assistant in nervous diseases; and Dr. Edward A. Willis, alternate in ophthalmology; Drs. George D. Kahlo and Charles P. Emerson were appointed to the department of internal medicine, and Dr. Willis D. Gatch was appointed a member of the surgical staff.

District Society Meetings.—The annual meeting of the Seventh Indiana Councilor District Medical Association was held in Franklin, November 24. After the scientific session, Dr. Lindsey L. Whitesides entertained the society at dinner at his home. Dr. William F. Howat, Hammond, president of the Indiana State Medical Association, gave an evening address. The officers of the society are: president, Dr. Lindsey L. Whitesides, Franklin; secretary, Dr. Wilson T. Lawson, Danville, and councilor, Dr. William N. Wishard, Indianapolis.——The Twelfth District Medical Association met in Fort Wayne, November 8, and elected Dr. William F. Shumaker, Butler, president; Dr. Benjamin P. Weaver, Fort Wayne, vice-president, and Dr. Homer E. Glock, Fort Wayne, secretary and treasurer. In the morning a clinic was held in Hope Hospital under the direction of Dr. Charles P. Emerson, Indianapolis.

Personal.—Dr. Luzerne H. Cook, Bluffton, fractured his right wrist while cranking his automobile, November 28.——Dr. George E. Denny has succeeded Dr. Edward A. Carlson, resigned, as secretary of the Madison Health Commission.——Dr. Thomas E. Courtney, Indianapolis, fortunately escaped with slight injuries when his automobile was wrecked in a collision with a street car, November 20.——Dr. Daniel V. McClary, Dale, is reported to be seriously ill with septicemia in a hospital in Evansville.——Dr. John P. Ramsey has been elected medical superintendent of the Good Samaritan Hospital, Vincennes.——Dr. Ethan Allen Kentland, while making a hurry call, was seriously injured in a collision between his automobile and a train, near Kentland.——Dr. E. DeBaum Thixton, Terre Haute, escaped with slight injuries when his automobile was struck by a train at Keller's Crossing, November 14.——Dr. Ella A. Hollis, Hartford City, is reported to be seriously ill with disease of the spinal cord at a hospital in Fort Wayne.——Jack J. Hinman has been appointed chemist of the Indianapolis City Board of Health, vice W. D. McAbee, resigned.

County Society Elections.—St. Joseph County Medical Society—held in South Bend, December 5; president, Dr. Stanley A. Clark, South Bend; vice-president, Dr. Walter H. Baker; secretary-treasurer, Dr. Robert C. Shanklin; assistant secretary and treasurer, Dr. Roscoe L. Sensenich; delegate to the state association, Dr. Hugh T. Montgomery, and alternate, Dr. Harry F. Mitchell, all of South Bend.——Gary Medical Society, December 5; president, Dr. Charles A. DeLong; vice-president, Dr. Chester W. Packard; secretary, Dr. Mabel Faulds; treasurer, Dr. William Alexander, and censor, Dr. Milton S. Hopper.——Floyd County Medical Society—December 1; held in New Albany; president, Dr. Henry B. Shacklett, New Albany; vice-president, Dr. Felix W. Hazelwood; secretary, Dr. James W. Baxter, Lanesville, and censors, Drs. Elihu P. Easley, John F. Weathers and William L. Starr, all of New Albany.——Delaware County Medical Society—in Muncie, December 1; president, Dr. Arthur E. Vinton; vice-president, Dr. George W. Bucklin; secretary-treasurer, Dr. Herbert D. Fair; censor, Dr. Orville E. Spurgeon, and delegates to the state association, Dr. Isaac N. Trent, all of Muncie.

MARYLAND

Personal.—Dr. Charles L. Mattfeldt, Catonsville, has been elected president of the Good Roads Commission of Baltimore County.——Dr. Henry A. Naylor, Pikesville, who was operated on for appendicitis, is making satisfactory progress toward recovery.

Baltimore

Officers to be Inaugurated.—On Jan. 5, 1912, the inauguration of the new officers of the Medical and Chirurgical Faculty of Maryland will be held in Osler Hall. Addresses will be made by the retiring president, Dr. Frankin Buchanan Smith, Frederick, and by Dr. Hugh H. Young, Baltimore, the president-elect.

Personal.—Dr. Samuel Amberg, associate professor of pediatrics of Johns Hopkins University, visited Detroit, November 20, and spoke before the Wayne County Medical Society on "A Few Phases of Breast Feeding."—Dr. George Reuling celebrated his seventy-second birthday anniversary and also the forty-fifth anniversary of his entrance into practice, November 11.——Dr. George L. Wilkins has been reelected physician to the city jail.——Dr. Henry Barton Jacobs has been elected president of the Johns Hopkins Hospital Historical Club.

City Medical Society Meeting.—At the annual meeting of the Baltimore City Medical Club, December 5, the following officers were elected: president, Dr. Robert W. Johnson; vice-president, Dr. Gordon Wilson; secretary, Dr. Emil Novak, and treasurer, Dr. William S. Gardner. The topic for discussion at the meeting was typhoid vaccination. Major Frederick F. Russell, M. C., U. S. Army, reported twelve cases of typhoid fever among 81,340 soldiers who had been vaccinated. Dr. Harry W. Stoner described the local work and said that of the 1,579 persons vaccinated against typhoid in Baltimore, consisting chiefly of physicians, nurses and inmates of institutions, not one had developed typhoid fever. Four nurses who had been absent from the hospital at the time of inoculation took typhoid fever on their return. Major Russell pointed out that the reaction following the vaccination is never serious and also that as the purification of water, disposition of sewage, inspection of milk and other sanitary precautions to check typhoid will not be brought to final perfection for several generations, vaccination is the only sure precaution. Dr. Warren P. Morrill, superintendent of the Sydenham Hospital for Infectious Diseases, declared that with the present advance in typhoid vaccination, the individual who contracts typhoid has only himself or herself to blame.

MASSACHUSETTS

Personal.—The executive council has confirmed the nominations of Dr. John B. Bebee, Great Barrington, as medical examiner of Berkshire County; of Dr. Clifford S. Chapin, Great Barrington, as associate medical examiner of Berkshire County, and of Dr. Ephraim Norwood, Spencer, as medical examiner of Worcester County.——Dr. Eliza J. Dadmun has been provisionally appointed a school physician of Boston.

Work of Dispensary.—The director of the Boston Dispensary announces that during the fiscal year just ended 30,307 out-patients were treated and 96,250 visits were made. The dispensary physicians made 20,448 calls on 11,827 patients.——While workmen were removing an old portion of the dispensary building to make a place for the new nurses' home, they came on an old box of papers and records. Among these was a list of patients of the first year of the dispensary, 1797, in which eighty patients were recorded.

Work in Boston Against Tuberculosis.—At the annual meeting of the Boston Association for the Relief and Control of Tuberculosis, the following officers were appointed: president, Robert Treat Paine; vice-president, Dr. Arthur K. Stone; clerk, Miss Alice L. Higgins; and treasurer, George S. Mumford. The following physicians were elected members of the executive committee: Drs. George S. C. Badger, Arthur T. Cabot, James J. Minot, Edward O. Otis, Charles P. Putnam and Arthur K. Stone (all of Boston), and Dr. Roger I. Lee, Peabody. The secretary reported a profit to the association of $2,575 from the sale of Red Cross Christmas seals.

Free Medical Lectures.—The Faculty of Medicine of Harvard University announces a course of free public lectures to be given at the Medical School, Longwood Avenue, on Sunday afternoons, beginning January 7. The speakers at the lectures and the lectures are as follows:

January 7—Dr. Frederick C. Shattuck, "Catching Cold," etc.
January 14—Dr. John Lovett Morse, "Feeding of Infants."
January 21—Dr. Myles Standish, "The Care of the Eyes."
January 28—Dr. Simeon B. Wolbach, "A Medical Expedition to West Africa."
February 4—Dr. Abner Post, "Syphilitic Heredity."
February 11—Dr. Elmer E. Southard, Cambridge, "The Mental Life in the Light of Modern Efforts to Map the Brain."
February 18—Dr. Charles S. Minot, "The Human Pace."
February 25—Dr. Joel E. Goldthwait, "The Effect of Posture on the General Efficiency of the Human Being."
March 3—Dr. Charles P. Putnam, "The Care and Training of Children."
March 10—Dr. Maurice H. Richardson, "Conservation, Not Destruction, the Chief Object of Surgical Endeavor."

V. 5
1911

March 17—Dr. Charles J. White, "Possibilities of Infection of the Skin in Public Places."
March 24—Dr. Edward H. Bradford, "Some Causes of Backache."
March 31—Dr. George Burgess Magrath, "The Massachusetts System of Medicolegal Inquiry."
April 7—Dr. Charles M. Green, "Certain Topics in the Hygiene of Women." (To women only.)
April 14—Dr. Edward H. Nichols, "The Sexual Instinct—Its Abuse and Control." (To men only.)
April 21—Dr. John Babet Blake, "Fractures, Sprains and Minor Injuries; Diagnosis and Treatment." Illustrated by lantern slides.
April 28—Dr. George T. Tuttle, "Some Forms of Mental Disease and the Methods Now Employed in Their Treatment."
May 5—Dr. Clarence J. Blake, "The Prevention of Unnecessary Noise."

NEW YORK

Gives Library to City.—Through the liberality of Mrs. Evangeline F. Hubbell, the valuable medical library of her late husband, Dr. Alvin A. Hubbell, properly card indexed and cross indexed, has been donated to Grosvenor Library, Buffalo.

New Hospital Opened.—The Tarrytown Hospital was opened on December 9. It was built at a cost of $80,000, a large part of which was given by John D. Rockefeller, Mrs. John D. Archbold and Miss Helen Gould. It is said to be one of the best equipped small hospitals in the country.

New Staff for Medical Journal.—The *Buffalo Medical Journal*, which is now in its sixty-seventh year, appears under new management. Dr. A. L. Benedict is the new editor and Drs. Grover W. Wende, Buffalo, Charles W. Hennington, Rochester, and Fayette H. Peck, Utica, are associate editors.

Antituberculosis Association Formed.—An antituberculosis association has been organized at Fredonia to aid in the fight against tuberculosis which is being carried on by the state Charities Aid Association and the State Board of Health. Dr. A. Wilson Dods has been elected president of the association.

Academy Election.—The annual meeting of the Elmira Academy of Medicine was held December 6 and the following officers were elected: president, Dr. Herbert W. Fudge; vice-president, Dr. John C. O'Brien; secretary, Dr. Charles Haase; treasurer, Dr. Charles G. R. Jennings (reelected); censors, Drs. Alfred J. Westlake, Elliot T. Bush and John A. Bennett, and trustees, Drs. Sherman Voorhees and Ross G. Loop.

Cancer Hospital Assured.—The fund of $20,000 for the purchase of a site for a cancer hospital adjoining the Gratwick Cancer Laboratory, Buffalo, has been pledged by public subscription. The state had appropriated $65,000 for the building which is now available. The board of trustees comprises: Dr. Roswell Park, president; Dr. Charles Cary and W. H. Gratwick, Buffalo; John B. Milburn, New York City; Frederick V. Stevens, Attica, and Charles S. Fairchild, Casenovia.

Buffalo Personal.—Dr. John B. Coakley has been appointed a member of the Buffalo Civil Service Commission.——Dr. Christina M. Green has been appointed assistant medical school inspector in the department of health.——Dr. Francis E. Fronczak has been reappointed health commissioner for five years, beginning Jan. 1, 1912. Dr. Fronczak has started on an extended trip to Cuba and South America.——Dr. Arthur C. Schaefer has been reappointed deputy health commissioner.——Dr. Stephen Y. Howell has donated a collection valued at about $15,000 of violin and viola music to the Buffalo Public Library.——Dr. Clarence L. Hyde has succeeded Dr. George J. Eckel, resigned, as physician in charge of the tuberculosis dispensary.——The Buffalo Society of Sanitary and Moral Prophylaxis at its annual meeting elected Dr. Lucien Howe, president.

New York City

German Medical Society Elects.—At the meeting of this society, December 4, the following officers were elected: president, Dr. Carl E. Pfister; vice-president, Dr. Albert A. Ripperger; recording secretary, Dr. Hugo O. Klein; corresponding secretary, Dr. Alfred A. Herzfeld, and treasurer, Dr. Sigmund Breitenfeld.

New Dispensary Building to be Dedicated.—The dedication of the new Dispensary Building of Lebanon Hospital and the inauguration of a social service department will take place at the hospital, December 17. Addresses will be made by Dr. Abraham Jacobi and Rev. Stephen Wise.

Buys Streets for Rockefeller Institute.—The Rockefeller Institute for Medical Research, which owns all the property from Sixty-Fourth to Sixty-Seventh Street and from Avenue A to Exterior Street has secured from the city the title to Sixty-Fifth and Sixty-Sixth Streets from Avenue A to Exterior Street. While these streets have been laid out, they have never been cut through, and now that the institute is assured that they never will encroach on the property, extensive building operations will be begun.

Nurses' Pensions.—The superintendent of Mount Sinai Hospital announces that subscriptions have been received which complete a pension fund of $60,000 for the relief of nurses who after graduation from the training school of the hospital have supported themselves at least in part by nursing for a period of twenty years. The fund is to be administered by a committee of the Mount Sinai Alumnæ Association. In exceptional circumstances, relief may be given to nurses who become incapacitated before the expiration of twenty years of active work.

Personal.—Dr. John P. Munn has been elected president of the New York University Athletic Association. Dr. Munn made a gift to the association in the form of cups and medals to be competed for in intramural sports and has placed a considerable sum of money at the disposal of the physical director of the association.——Dr. and Mrs. Thomas M. Dillingham and Dr. A. J. Anderson have sailed for Europe.——Dr. Anthony Bassler has accepted the editorship of the American Journal of Gastro-Enterology.——Dr. Max G. Schlapp has been appointed president of the State Commission in Lunacy, succeeding Dr. Albert W. Ferris.

Presbyterian Hospital Celebrates Anniversary.—Exercises were held at the Presbyterian Hospital, December 2, in celebration of the forty-third anniversary of the hospital. Dr. William H. Welch came from Baltimore to deliver an address commendatory of the recent affiliation of the Presbyterian Hospital with the College of Physicians and Surgeons of Columbia University. He took as the subject of his address "The Advantage to a Charitable Hospital of Affiliation with a University Medical School" and commended the hospital for having set an example that would be of great service to medical education. The offer of Edward S. Harkness to erect a surgical pavilion containing 150 beds and a complete laboratory for advanced research and also the offer of a trust fund of $1,300,000 from an unknown donor have both been accepted by the hospital and college.

Board of Health Wins Suit.—The Appellate Division of the Supreme Court handed down a decision, December 1, upholding the appeal of the department of health from a lower court which granted an order some time ago to Dr. William Allen of the Bureau of Municipal Research for permission to examine the records of the department. Dr. Allen contended that as a tax-payer he had the right to inspect the records. The Appellate Division denies that he has any such right and holds that public policy is opposed to giving taxpayers the right to inspect the private records of a department of the character of the department of health. The Appellate Division also denies that the Bureau of Municipal Research has any peculiar rights to delve into the records of the department. The legislature has left it to the department of health to determine what policy it shall pursue in order to protect the privacy of its records.

PENNSYLVANIA

Personal.—Dr. Franklin P. Lytle of Birdsboro, has been appointed medical examiner of public school children and school buildings.——Dr. Dexter W. Draper has been chosen professor of hygiene and director of athletics at Franklin and Marshall College.

Philadelphia

Personal.—Dr. Edward MacInall has been appointed superintendent of the City Hall. The position carries with it a salary of $2,000 a year.——Dr. William G. Shields had a narrow escape from suffocation in a fire which damaged his house in Germantown, December 4.

Pneumonia and Diphtheria Prevalent.—Pneumonia and bronchopneumonia caused sixty-eight deaths last week and 101 new cases of diphtheria were reported with ten deaths. The prevalence of the latter disease is giving the department much concern and drastic isolation is contemplated unless there is an early abatement.

Hospital Sells Lot.—The American Oncologic Hospital has sold a lot of ground at the northeast corner of Fiftieth and Chestnut Streets, 250 by 234.6 feet, for $25,000, subject to an annual ground rent of $675, the principal of which is $17,500. The lot was purchased several years ago by the hospital as a site for a new building, but the project was subsequently abandoned.

Testimonial to be Presented to Dr. Neff.—Arrangements have been made by a committee of one hundred citizens and leaders in medical, educational and charitable organizations to present a testimonial to Dr. Joseph S. Neff, director of the

Department of Health and Charities in recognition of his services to the city. The committee was organized by George Wharton Pepper, John S. Newbold, Dr. S. Weir Mitchell, George Vaux, Jr., Max Herzberg and Walter G. Smith.

Tuberculosis Day Camp Report.—The director of the Tuberculosis Day Camp, located on Pier 32 on the Delaware River front, which was opened July 7, and closed December 1, reports that ninety-four patients were treated, eighty of whom were adults; the average daily attendance was 25; the average length of stay for each individual forty days, and the total weight gained by patients at the camp was 180 pounds.

Contract for Cottages Awarded.—Dr. Joseph S. Neff, director of Public Health and Charities, awarded the contract, December 6, for the construction of three cottages for the home of the feeble-minded. These cottages will form the nucleus of a municipal institution for the feeble-minded to be erected on the Brown estate at Torresdale. Two of the cottages will cost $70,968 each, and the third and smaller cottage will cost $46,968.

MacCracken Fund.—In appreciation of the work of Dr. Josiah H. MacCracken, head of the University of Pennsylvania Medical School, Canton, China, the Christian Association of the University has commenced to raise a fund of $6,000 to build a new residence for Dr. MacCracken in Canton. George W. Pepper has promised to contribute $1,000 to this fund contingent on the raising of $5,000 by the undergraduates of the university.

Contract Awarded for Municipal Institution.—The Wayne Contracting Company has been awarded a contract for the construction of a group of buildings to comprise the city's home for the indigent on the Holmesburg Race Track site, adjoining the House of Correction. The contract price is $621,000. The site for this institution was purchased by the city more than a year ago for $350,000. The lot covers 50 acres, almost half of which has been reclaimed since the city came into possession.

Solarium Dedicated.—The new Freeman Solarium at the Methodist Hospital was dedicated November 24. The solarium is the gift of Frank A. Freeman, the first vice-president of the institution, is situated at the rear of the administration building and serves as a connecting link between the main building of the hospital and Bradley Hall. It is of cement and stone and has windows on all sides, allowing the patients to obtain the warmth of the sun at every angle, and to look out on the lawn of the hospital. It is fitted with chairs, settee and tables.

Hospitals Acquire Property.—The Presbyterian Hospital has added to its holdings in State Street in the rear of the hospital, by the purchase of two lots, each 25x48 feet. These are assessed at $1,000 each.——The Women's Hospital of Philadelphia has bought the dwellings 1233-35-37-39 N. 27th Street, on a lot 56x100 feet for a nominal consideration. The properties are assessed at $2,400 each.——The Children's Hospital has taken title to the property, 1712 Bainbridge Street, 17x71 feet, adjoining the site presented to it some years ago on Eighteenth Street, from Bainbridge to Fitzwater Streets, by Eckley Coxe, Jr.

Students Aid Food Tests.—In order to ascertain whether the use of alum in foodstuffs is injurious to the health, twelve members of the junior class at the University of Pennsylvania, have been following Dr. Wiley's directions since October 1, and will continue until June. The students meet three times daily in the basement of the medical school for their meals and all but two partake of the same food, prepared by the same cooks. These two, for comparative purposes, are served with food without alum. They are all under the charge of Dr. Alonzo E. Taylor, an expert government chemist, who examines the men frequently.

GENERAL AND FOREIGN

Sajous Becomes Supervising Editor.—The publishers of the *New York Medical Journal* announce that Dr. Charles E. De M. Sajous of Philadelphia has become supervising editor.

Hospital Renamed.—The General Hospital, Presidio of San Francisco, under recent general orders of the War Department, is designated as the Letterman General Hospital, in honor of the late Major Jonathan Letterman, surgeon U. S. Army, who effected the organization of the Medical Department of the Army of the Potomac in the Civil War.

Infantile Death-Rates.—The Bureau of Census has issued an advance bulletin, giving the death-rates of infants under one year of age in 1910 in cities with a population of 50,000 or more. Among the cities having a high infant death-rate are Lowell, Mass., 231 per 1,000; Holyoke, Mass., 213 per 1,000; Manchester, N. H., 193; Fall River, Mass., 186; Detroit, Mich., 179; New Bedford, Mass., 177; Lawrence, Mass., 167; Johnstown, Pa., 165; Washington, D. C., 152, and Pittsburgh, Pa., 150.

Seaboard Medical Association.—The sixteenth annual meeting of the Seaboard Medical Association of Virginia and North Carolina was held in Newport News, Va., December 5-7. Newbern, N. C., was selected as the next place of meeting and the following officers were elected: president, Dr. Norflut M. Gibbs, Newbern, N. C.; vice-presidents, Drs. Japheth E. Rawls, Suffolk, Va., Henry W. Carter, Washington, N. C., George J. Williams, Newport News, Va., and W. H. Hardison, Creswell, N. C.; secretary, Dr. Clarence Porter Jones, Newport News, Va.; treasurer, Dr. Israel Brown, Norfolk, Va., and orator, Dr. Robert L. Paine, Norfolk, Va.

Destroy Breeding Places of Mosquitoes.—As the result of the discovery of a case of yellow fever in Honolulu in October, which is supposed to have been brought from Central America, Honolulu is having a most vigorous sanitation campaign under the direction of the federal quarantine officer, the Territorial Board of Health and a special citizens' committee. As a part of the campaign the city has been cleared of all banana trees, the experts declaring that yellow fever mosquitoes breed in the standing waters between leaves and stalk. More than 150,000 banana trees were cut down in the city. The next step planned is the elimination of "wet" farming, such as the growing of rice and taro, in or near the city and the filling in of swamps.

Bequests to Hospitals.—The following bequests to hospitals are announced:

Hospital of the Woman's Medical College of Pennsylvania, Philadelphia, $10,000; by the will of the late Anne B. Hensey.

Mount Sinai Hospital, Philadelphia, $1,000; given by Samuel, Ralph and Bernard Harburger to endow a private room in memory of their parents.

Home of the Merciful Savior for Crippled Children, $5,000; by the will of the late Mrs. Lelia H. Sharpless.

Union Hospital, Elkton, Md., $51,243; bequest from an estate.

Free Hospital for Women, Brookline, Mass., $5,000 and Boston Floating Hospital, $8,000, in memory of Carrie J. Conant and Lydia A. Cowan, by the will of the late Mrs. Mary H. Heath.

Presbyterian Hospital, New York City, $10,000; and German Hospital, New York City, $10,000, by the will of the late John M. Loose.

German Hospital, New York City, $10,000, by the will of Mrs. Elise Timme, as a memorial to her deceased husband.

Jewish Hospital, Brooklyn, a gift of $2,500 for the maintenance of an *x-ray* room.

The Cholera Situation is Better.—With the approach of winter, the cholera situation in Italy continues to improve. According to the U. S. P. H. and M.-H. S., all the provinces of northern Italy were declared by the authorities free from cholera on November 10. Only a few scattered cases of the disease are now being reported each week in Russia. In Austria-Hungary a few cases continue to be reported. According to last advices an occasional case of cholera was still occurring in Marseilles. In Tunis, Africa, the disease has continued to spread, and a large number of cases are being reported. In Asia Minor the disease has been reported from certain localities.

Eminent Naturalist Dies.—Sir Joseph Dalton Hooker, the eminent surgeon and naturalist, died in London, December 11, aged 94. After his graduation from the University of Glasgow, Dr. Hooker entered the Royal Navy as surgeon and in that capacity accompanied the expedition of *H. M. S. Erebus* to the Antarctic in 1839 to 1843. Later he published a work entitled "Botany of the Antarctic Expedition." He traveled extensively throughout the world and the records of his scientific expeditions are standard to-day. In 1855 he was made assistant director of the Royal Botanic Gardens, Kew, of which his father had previously been director and in 1865 he was made director, holding this position for twenty years. He was the recipient of numerous English and foreign orders and of many honorary degrees, by reason of his prominence as a naturalist, especially in the field of botany.

CANADA

Provincial Association Meeting.—The Alberta Medical Association, at its annual meeting, elected the following officers: president, Dr. George A. Kennedy, MeLeod; vice-presidents, Dr. Charles E. Smythe, Medicine Hat, and Dr. Stevenson, and secretary-treasurer, Dr. Alfred McNally, Lethbridge.

Fraternity Chapter Installed at McGill.—On November 28 the Alpha of Quebec Chapter of the Alpha Omega Alpha Honorary Fraternity was installed at McGill University, Montreal, by Primarius Winfield Scott Hall, Chicago. This is

V. 5 1911

the seventeenth chapter to be organized. The address at the annual banquet of the chapter is to be given by Prof. J. J. Mackenzie, Toronto, of the Ontario Chapter.

Personal.—Dr. Henry B. Aikins, Toronto, has returned from Europe.——Dr. Thomas S. Sproule, Marksdale, Ont., has been elected speaker of the Canadian House of Commons.——Dr. Helen MacMurchy, Toronto, has resigned as medical inspector of schools.——Dr. James C. Connell has been elected president of the Sir Oliver Mowat Memorial Hospital for Consumptives, Kingston, Ont.——Sir James Grant, for more than forty years physician to the governors-general of Canada and still in active practice in Ottawa, visited in Chicago last week and went from there to New York to attend the banquet of the Edinburgh University Club of America, of which he is the honorary president.——Dr. G. E. Jurben Lannin, Hamilton, has been appointed associate coroner for the County of Wentworth.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Dec. 2, 1911.

The National Insurance Bill

The struggle between the profession and the government on the national insurance bill continues. A special meeting of the representatives of the divisions of the British Medical Association has been held to consider again the bill, which has almost passed through the committee stage in the House of Commons. The six points demanded by the association from the first (see previous letters to THE JOURNAL) were unanimously reaffirmed. Only some of these have been embodied in the bill and the one which the profession considers most important—a wage limit of $10 a week—has not been adopted. There was some difference of opinion as to the best method of insisting on the demands of the profession. Some were of opinion that further negotiations with the government should be broken off and that the association should declare its unwillingness to work under the bill on any terms. Others were in favor of demanding that the six points should be embodied in the bill. Eventually a third course was adopted; it was agreed that the association should continue its efforts to obtain such amendments in the bill as would improve the position of the profession and in the meantime reaffirm its determination to adhere to the six points and advise the profession not to accept any terms of employment not in accordance with them. The reason for not adopting the first course was that there was no prospect of the bill being withdrawn and if it became law the profession would still have the power to refuse to work under it. With regard to the second proposal—to insist that the six points should be specifically provided for—it was pointed out that to include two of them—the method and amount of remuneration—would reverse the policy followed by the association which was that a uniform rate, whether per attendance or per head, should not be imposed on every district of the country, as the circumstances, as regards distance of visits, etc., varied. In order to make the above resolutions effective it was resolved "that in the event of the insurance bill becoming law, the British Medical Association use every possible means to ensure that no medical practitioner undertakes the attendance and treatment of insured persons under arrangements that are not absolutely in accordance with the six cardinal principles of the association." Another point on which the association determined to fight the government is an amendment to the bill, introduced at the instigation of the friendly societies, providing for attendance on their aged and infirm through existing organizations at present rates. The association is willing to attend them only on the same rates as other insured persons. It was also resolved that the government proposal to pay a capitation rate of $1.25 per annum is inadequate for medical attendance and that the inclusion of married women as beneficiaries necessitates a considerable increase per head on the amount originally necessary, and finally that there should be one-tenth medical representation on each insurance committee.

Eleventh Report of the Sleeping-Sickness Commission

The third sleeping-sickness commission, sent out to Uganda in 1908, under the direction of Sir David Bruce, by the Royal Society, has issued the eleventh report on the disease. The conclusion is arrived at that in the course of the development of the *Trypanosoma gambiense* in the *Glossina palpalis* the proboscis of the fly does not become involved. After an infective feed the trypanosomes disappear from the alimentary canal of the great majority of the glossinas, but in a minority this disappearance is followed by a renewed development in about twenty-eight days, and the fly then remains infective for at least ninety-six days and possibly for the remainder of its life. At the same time as the renewed infectivity, the salivary glands are invaded. Without this invasion it is believed that the bite of the fly is not infective. The type of trypanosomes found in the salivary glands resembles the short stumpy forms found in the blood of vertebrates. It is thought that this reversion to the blood type is essential to the infective process. Mechanical transmission of the infection by the fly after an infective feed plays a much smaller part in infection, if any, than has been supposed. One of the most difficult problems confronted by the commission was to account for the continuance of the infection in the flies caught on the depopulated shores of Lake Victoria Nyanza two years after the removal of the whole native population. It was suspected that some animal was acting as a reservoir. It was found that cattle may in nature carry the trypanosome in their blood. It was shown that there could be no hereditary transmission of the trypanosome in the *Glossina palpalis*. The interesting discovery was made by the commission that an illness known to the natives as "muhinyo" is none other than Mediterranean fever and that it is spread in Uganda, as elsewhere, by infected goat's milk.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Dec. 1, 1911.

Two More Deaths from Salvarsan

On November 21, Dr. Gaucher, clinical professor of cutaneous and syphilitic diseases at the Faculté de médecine de Paris, reported before the Académie de médecine two new cases of death from salvarsan, one of which had been reported to him by Dr. Oltramare of Geneva. Dr. Oltramare treated a man, aged 48, very corpulent, who had had syphilis for fifteen years but who at the time of treatment showed no manifestations. On complete examination no cardiac, renal, cerebral or spinal trouble was found. Four days after an intravenous alkaline injection of 0.6 gm. of salvarsan, the patient was found in his room lying on the floor, completely unconscious and moving convulsively. The next day he was in the same condition of stupor. Convulsive crises occurred again. The patient was cyanosed and covered with perspiration; the pulse was rapid; respiration frequent; the pupils were at first dilated, then became contracted; temperature rose to 40.5 C. (105 F.) and death occurred at midnight. Autopsy showed a leptomeningitis.

The second observation was one made by Dr. Caraven of Amiens on a young man of 21 who had a syphilitic chancre of the gland but showed no organic defect. After two intravenous alkaline injections of 0.6 gm. of salvarsan, made seven days apart, symptoms of meningitis were observed (delirium, carphology, rigidity of the neck and of the arms, Kernig's sign). Lumbar puncture drew forth a cloudy amber fluid. Urine contained 2.3 gm. of albumin per liter (before the injection there was no albumin in the urine). At the autopsy it was found that the patient had succumbed to an intense and generalized congestion of the brain and lungs.

Professor Gaucher had received, moreover, from Dr. Brequin, director of the bureau of hygiene of Troyes, report of two cases of recurrence of syphilitic manifestations after salvarsan treatment. The first was the case of a woman of 24, a prostitute, who had an indurated chancre with specific adenopathy. She came to Paris and received six injections of 0.3 gm. of salvarsan, following which the chancre and adenopathy disappeared and the Wassermann reaction was negative. Being convinced that she was cured, the woman returned home. Some time afterward she presented secondary lesions and infected several persons. The second case was that of a man of 25, married, who contracted syphilis and went to Paris to be treated. He received injections of salvarsan, following which the lesions rapidly disappeared. Being convinced on the word of his physician that he was completely cured and had nothing to fear, he returned home and soon infected his wife.

Gaucher insists that relapses occur not in isolated cases but regularly following the treatment of syphilis by salvarsan.

Manifestations of a Special Type Occurring Suddenly After a Second Injection of Salvarsan

On November 17, Dr. Ravaut reported, before the Société médicale des hôpitaux de Paris, seven cases, one of his own, in which from three to five days after a second injection of

salvarsan, in subjects healthy except for syphilis and without any anterior defect, epileptiform convulsions appeared, followed soon by coma, and death eighteen or twenty-four hours after the beginning of the manifestations. In the other patients, there appeared under the same conditions and after the same intervals, such phenomena as agitation, nausea, hyperthermia, cutaneous eruptions of various types (scarlatiniform, varioliform, etc.).

According to Ravaut, these manifestations ought not to be attributed to the technic employed or to the dosage of the medicament. They are due to humoral phenomena analogous to those in anaphylaxis. The means of avoiding them, if not completely, at least partially, is to inject only 0.3 gm. the first time, then to wait eight or ten days before giving the second injection and meanwhile to institute mercurial treatment, preferably by the soluble salts.

Meningitis in Syphilitic Patients Treated with Salvarsan and Mercury

Dr. Audry, clinical professor of cutaneous and syphilitic diseases at the Faculté de médecine de Toulouse, maintains that while meningitis is sometimes observed in syphilitic patients treated by salvarsan, this is due not to the latter drug but to the fact that the patients have not undergone any mercurial treatment afterward. This view is contradicted by the observations of Drs. Fage and Gendron, who, on November 17, reported before the Société médicale des hôpitaux de Paris, two cases of relapses observed in the service of Dr. Brocq in syphilitics treated first by salvarsan and then by mercury.

The first case was that of a woman who after two intravenous injections of 0.3 gm. of salvarsan, received twelve injections of 15 mg. each of cyanid of mercury. Twenty days afterward meningeal symptoms appeared (vertigo, vomiting, etc.) with lymphocytosis of the cerebrospinal fluid. The second case was that of a man who had secondary syphilis which was treated first by biniodid of mercury, then by salvarsan in very small doses, 0.3 to 0.15 gm. and finally by Dupuytren's pills (bichlorid of mercury). Three weeks after this treatment meningeal symptoms occurred which were identical with those in the preceding patient.

Honors to Professor Hayem

Dr. Hayem, who has just retired from his position of physician of the Saint-Antoine Hospital, and professor of clinical medicine at the Faculté de médecine de Paris, received on November 19, from his pupils, friends and colleagues, assembled at the hospital in the pavilion where he gave his clinical instruction, a medal, the work of the sculptor, Roger Bloche. This medal has Dr. Hayem's portrait on one side and on the other a representation of a clinical lecture in the amphitheater, a patient being examined by the professor in the foreground, and the crowd of pupils pressing around in the background.

The ceremony was presided over by Dr. Millard, who spoke of some of the features of Dr. Hayem's career. He was appointed *agrégé* and physician of the Saint-Antoine Hospital in 1872, professor of therapeutics in place of Gubler in 1879 and professor of clinical medicine in place of Peter in 1893. Other speeches were made by Professor Landouzy, dean of the Faculté de médecine de Paris, M. Mesureur, director of the Public Charities of Paris, Professor Gilbert, Dr. Magnan and others.

The Right to Reproduce Clinical Lectures

This subject was discussed in the general assembly of the Association des journalistes médicaux français. It was held that legally a periodical has not the right to reproduce a lesson without the consent of the one who gave it, if it is his property. While the law which safeguards literary and artistic property mentions only writings, the courts have held that it applied to oral productions, lectures, sermons, lessons, etc., as well. The salary which a professor receives for his instruction is held to pay merely for the time which he devotes to his course. It is not considered as a purchase price for his lessons, which are the result of long labor and painful and studious research. The author may obtain penal and civil amends from anyone who reports or publishes his clinical lessons without his consent. He may also demand the destruction of the copies of the journal which contain his clinical lessons or their removal from the journal. Medical periodicals, to avoid such a danger, should secure the author's permission to publish and should submit proofs to him, or should accept a manuscript only if it has been endorsed by the author. In spite of this publication, the author of the lesson preserves absolute right to dispose of his clinical lessons in future. These principles apply in cases which occur in any country which subscribes to the convention of Berne, revised three years ago by the convention of Berlin.

Population in France

The *Journal Officiel* has just published vital statistics in France for the first semester of 1911. It seems that there were almost 14,000 fewer births than during the corresponding semester of 1910. Last year the births, which were few enough already, amounted to 399,669. This year there were not more than 385,999. While births are diminishing, deaths are increasing. They increased from 378,480 during the first semester of 1910, to 404,278 during the first semester of 1911, an increase of 25,798. During the six first months of the current year the deaths exceeded the births by 18,279. The number of marriages has decreased in a slightly less proportion. There were about 156,761 last year. There are not more than 153,931 this year. Divorces, which last year amounted to about 6,303, in 1911 have increased to 6,374.

Municipal Services of Disinfection

The premier has just proposed a bill to encourage increase in municipal disinfection services. It is proposed to permit the minister of the interior to authorize communes of less than 20,000 inhabitants to own their own service under special conditions. At present in many communes containing only a few thousand inhabitants, the disinfection service is still badly organized or non-existent.

Measures Against Tuberculosis Among Soldiers

For a long time the Union des Femmes de France, one of the three charitable societies which makes up the French Red Cross, has been studying the means of coming to the aid of young soldiers temporarily invalided who have not proper care at home and who bring into their families the germs of tuberculosis. A large bequest recently made to the society will permit the realization of this idea.

Jubilee of Prof. Armand Gautier

The colleagues, friends and pupils of Prof. Armand Gautier, professor of chemistry at the Faculté de médecine, and president of the Académie des sciences, on November 26, celebrated the fiftieth anniversary of his connection with the university. M. Bayet, director of superior instruction, who represented the minister of public instruction, presided over the ceremony and brought Professor Gautier the official congratulations of the government of the republic. Speeches were made by several prominent men.

The Reform of Medical Studies

A decree has recently been promulgated for the improvement of the scientific and clinical education of the future physician. Its main features are as follows: (1) the duration of the medical course is increased from four to five years; (2) practical work in physiology and medical physics and chemistry and bacteriology is to be compulsory; (3) the hospital *stage* will be coextensive with the medical course and will include the various services; (4) to decrease the effect of chance in examination, each student will have a record book in which will be noted the credits he has obtained in laboratory and chemical work and previous examinations.

In one of its last sessions the chamber of deputies finally voted the appropriation for the reorganization of medical studies. But in place of the $900,000 (4,500,000 francs) which the minister of public instruction found necessary for the purpose, only $15,000 was appropriated.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Nov. 24, 1911.

Founding of a National Chemical Institute

An institution for furthering the progress of scientific chemistry without the obligation of teaching is to be founded at Dahlem near Berlin. The institute is to be erected jointly by the Kaiser Wilhelm-Gesellschaft für wissenschaftliche Forschungen (association for progress of scientific research), by a society founded especially for this purpose consisting principally of proprietors of chemical factories, and the state of Prussia. The society guarantees a yearly contribution of $15,000 (60,000 marks) and for the building alone $225,000

(900,000 marks). The government gives the ground and promises to furnish one of the professors of the university as the director of the institution. The management of the new imperial institute is to be in the hands of a committee.

Death-Rate in Prussia

The mortality of the entire population of Prussia has undergone a very satisfactory reduction in the past year. According to the last issue of the *Medizinalstatistischen Nachrichten* 637,982 persons (329,951 males) died. This was 29,800 less than the previous year. Reckoned per 1,000 living on Jan. 1, 1910, this gives a rate of 16.1 (previous year 17.1) 16.9 for males and 15.4 for females. For the year 1875 it was 26.3 and for the last four years it has varied between 19.3 and 19.9. The police district of Berlin gives the most favorable figure, 13.3; for the city of Berlin it is 14.2 per 1,000 living; 156,698, or 24.56 per cent. of the deaths were from communicable diseases, 60,479 or 9.48 per cent. from tuberculosis.

Agreement Between Germany and France Regarding Exchange of Information of Communicable Diseases

The German and French governments have concluded an agreement for the exchange of information regarding communicable diseases of men or animals occurring at or near their frontiers. The notification of the following contagious human diseases is made obligatory: cholera, typhus, yellow fever, plague, small-pox, typhoid fever, dysentery, diphtheria, scarlet fever, epidemic cerebrospinal meningitis, relapsing fever and trachoma. The infectious diseases of animals to be reported are: cattle plague, rabies, glanders, foot-and-mouth disease, pleuropneumonia, sheep-pox, mal du coit in horses, scab in sheep and swine plague. For the first six human diseases mentioned above, an immediate report must be made on the appearance of the first case, while in case of the others only an unusual frequency in a locality need be noticed. The information regarding animal diseases is to be given weekly by a formal report; only the occurrence of foot-and-mouth disease is to be reported immediately on the occurrence of a case by a special notice. The provisions of the entire agreement are to go into effect Dec. 15, 1911.

Tax on Bachelors in Mecklenburg

Following the example of Reuss in Thuringia, of which I recently wrote you, Mecklenburg has imposed a tax amounting to 25 per cent. above the regular tax, on unmarried men over 30, provided they have no relative living with them whom they are legally bound to support.

Prizes Offered for Articles on Animal Experimentation

The union of the societies for protection of animals of the German empire (Tierschutzvereine) offers a prize for articles on the question "Within What Limits is Scientific Research on Living Animals to be Regarded as Indispensable?" The following is a part of the announcement of the prizes: "The union of the societies for protection of animals of the German empire is actuated by the desire that scientific research on living animals should not only be carried out in as inoffensive a manner as possible but that it shall also be restricted to the degree that is unconditionally necessary, something which is not always the case (unnecessary repetitions and demonstrations, unimportant research, private experiments by students, etc.). In pursuance of its efforts in this direction the union calls on scientific men for help and advice. Especially it is desirous to learn to what extent the restriction of research can go without endangering the interests of human welfare. For the best article it offers a prize of $500 (2,000 marks) and for the second best a prize of $250 (1,000 marks). It however reserves the right at the discretion of the jury to divide up the entire sum of 3,000 marks equally between the authors of the first and second best articles, if these appear to be of equal value. Only such articles will be entitled to compete for the prizes as fulfil the following conditions: 1. They shall be written by scientists who have completed their professional education. 2. When printed they shall not exceed ninety-six pages of text (6 Druckbogen). 3. They shall be in the German language, in easily legible writing, and written only on one side of the sheet. The articles are not to be marked with the name but with a motto, accompanied by a sealed envelope containing the name and address of the writer and bearing the motto of the article on the outside. The articles can be sent up to June 30, 1912, to the president of the union, Mr. Otto Hartman, Cologne. (Address Rentner Otto Hartman, Köln, a. Rh.) The jury to award the prizes consists of Professor His of Berlin, Professor v. Frey of Würzburg, Professor Meusel of Gotha, Professor Ellenberger of Dresden and Mr. Otto Hartman of Cologne.

Appeal for a Memorial to Robert Koch

The appeal for the erection of a monument to Robert Koch, the private preparations for which I wrote to you about a few weeks ago, has now appeared in the political and medical press. As announced, the honorary presidency of the committee has been taken by the imperial chancellor while the acting president is the new chief of the Prussian Medizinalabteilung (state medical department), Professor Kirchner. To the committee belong in addition to most of the members of the Prussian cabinet and the cabinets of the other states of the empire, the mayor of Berlin and the mayors of a large number of other cities, the most distinguished pupils of Koch and other notable persons. It is expected that the city of Berlin of which Robert Koch, as is well known, was an honorary citizen, will contribute a large sum and furnish a place for the statue free of charge. On the part of the committee it is purposed to place the memorial on the Luisenplatz in front of the Kaiserin Friedrich-Haus for postgraduate instruction. In view of the monstrous monument to Virchow, over the design for which, as your readers will remember, there was so much indignation at the time, the *Deutsche medizinische Wochenschrift*, whose editor is the secretary of the committee, remarks that the Koch monument will be marred neither by mythology nor zoology. It is to be expected that physicians in America, especially those who have emigrated thither from Germany, will contribute to the collection for this memorial that is dedicated to one of the greatest physicians of all times.

Penalties Imposed for Adulteration of Foodstuffs

On account of adulteration of foodstuffs and having for sale adulterated or decomposed foodstuff as well as transgressions against the law regulating the sale of substitutes for butter, wines, artificial sweets, beer, etc., 4,098 persons were convicted in 1909 (as compared with 4,055 in 1908).

First-Aid Drill on Government Railroad

The management of the government railway in Saxony has directed that investigation shall be made at the stations on its line to learn whether the sanitary arrangements for the prevention of accidents are sufficiently known to the employees. For this purpose the managers of the stations from now on are to be drilled in first-aid exercises, the chief stress being laid on the prompt arrival on the scene of the railroad employees trained in first aid and of the material provided, such as bandages, stretchers, etc.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Nov. 24, 1911.

The Sale of Alcoholic Drinks by Automatic Machines

In this country drinks and articles of food are frequently sold by means of special automatic devices like "penny-in-the-slot" machines, especially at railway stations, in busy thoroughfares, etc. The government, intending to decrease the consumption of spirits, contemplates the prohibition of such automatic sale of alcohol. The idea has been taken up both by the medical profession and the Anti-Alcohol Society; on the other hand, those concerned in the liquor trade oppose such an ordinance on the ground that established business enterprises must not be ruined by one-sided policy. Investigations have shown that beer and low-grade gin was mainly demanded and that the sale in a single automatic shop was larger than in any of the regular gin-shops so much patronized by laborers. In one automatic shop as much as 20 gallons of "gin," called here "cognac," were sold daily, and there was no control of the customers as regards the quantity they could purchase. There is little doubt that the opposition by the manufacturers against the ordinance will be useless.

The Fourth Clinic

A few days ago the fourth medical clinic was opened on the premises occupied until quite recently by the clinic of Noorden, in the old general hospital. The increase in the number of medical students, the specialization of medicine, and the personal interest of the temporary successor of Strümpell, Professor Chvostek, caused the addition of another clinic to the existing three. It will have forty-five clinical beds, besides fifty non-clinical beds; the clinical beds can be filled by patients selected by the professor or his assistant from among the fresh arrivals in the hospital, while the other beds must be filled as they are required by the receiving office.

This circumstance makes the latter less suitable for teaching purposes. Professor Chvostek was made fourth clinical professor (besides Noorden, Neusser and Ortner), and has commenced his lectures, which will deal mainly with diseases of the nervous system.

The Action Against the New Medical Regulations

The proposed new medical regulations have caused quite an excitement among our profession in this country (THE JOURNAL, Oct. 28, 1911, p. 1469). The main arguments are simple; namely, that the act has been concocted without consulting the responsible and representative medical organizations. Therefore the Vienna Medical Council has entered a violent protest against the proposed regulations, in terms which have seldom been used in a message to the government. It appears that the medical department of the ministry has not been asked at all to give its opinion, but that only juristic officials have had their hand in framing the act. As one man said in the medical Council, the regulations show a marvelous degree of "absence of knowledge of life" (*Weltfremdheit*). All the medical councils of Austria have been urged to adopt the same way of bringing to the notice of the government the impossibility of enforcing such an act. In fact, a general passive strike is contemplated if, in spite of all demonstrations, the original regulations should be made law. The cooperation of all medical organizations has been secured for the protest movement.

Mercurial Poisoning of Laborers on Electric Lamps

At a recent meeting of the Gesellschaft der Aerzte, Dr. Teleky demonstrated a few cases of mercurial poisoning caused by working with mercury vapors, the mode of poisoning being quite unusual. During the process of manufacturing special incandescent lamps, a very high gas-pressure is required, which is produced by mercury vapor. The lamps always contain traces of this vapor. Although only one laborer has been in contact with metallic mercury, fourteen men in this line of work were attacked by similar symptoms: stomatitis, anemia, nervousness and tremor. It has not been possible to find the actual way of poisoning. Most likely it has been inhaled, although utmost precaution was taken to prevent it. The men affected had been engaged in this work a little over a year before any symptoms were noticed. As a consequence of the observations by Dr. Teleky, increased precautions were taken, thus, for instance, all handling of the lamps before their definite air-tight closure is now done in air-tight chambers, into which only the hands of the men employed are introduced.

Miscellany

The Canteen Again

A circular is being sent out, signed by 275 medical men, arguing that the canteen ought to be restored in the army. Dr. W. W. Keen, 1729 Chestnut Street, Philadelphia, seems to be in charge of the publicity department. The text of the circular is as follows:

To the Honorable, the Members of the U. S. Senate and House of Representatives:

The undersigned, all medical men from many different parts of the United States beg leave respectfully but urgently to petition your honorable bodies to pass the bill (H. R. 30) introduced in the 62nd Congress by Mr. Bartholdt and thus to reestablish the so-called "canteen" in the United States Army.

Many well-informed persons think that the canteen was like a hotel "bar," where all sorts of liquors could be had at all times no matter whether the soldier was drunk or sober. Let us see then what the canteen really was.

It was regulated by general orders No. 10 of General Schofield, dated Feb. 1, 1889, and No. 51, dated May 13, 1890. Rooms were set apart for recreation such as "gymnastic exercises, billiards and other proper games." A piano was often obtained. "The sale or use of ardent spirits or wines in canteens is strictly prohibited; but the commanding officer is authorized to permit light beer to be sold therein by the drink, on week-days, and in a room used for no other purpose, and, when practicable, in a building apart from that in which the canteen is located, whenever he is satisfied that the giving to the men the opportunity of obtaining such beverage within the post limits has the effect of preventing them from resorting for strong intoxicants to places without such limits, and tends to promote temperance and discipline among them. The practice of what is known as 'treating' must not be permitted." "Gambling or playing any game for money or other thing of value is forbidden." Credit not beyond one-fifth of their monthly pay might be allowed, but only "to soldiers in good standing." All profits were divided among the "company funds" to give extra comforts and little luxuries not otherwise obtainable.

It will be observed particularly that the very object aimed at in thus establishing the canteen was to provide a pleasant club for the soldiers and especially to give the men "the opportunity of obtaining such beverages within the post limits," that is to say "at home," and to "prevent them from resorting for strong intoxicants to places without such limits."

Since the abolition of the canteen in 1901, the practically unanimous testimony of general officers and post commanders, from General Leonard Wood (formerly an army surgeon) and General Fred. D. Grant (a total abstainer) down, is that intemperance has been increased with a corresponding increase in infractions of discipline and in desertions.[1]

But we wish to urge the reestablishment of the canteen chiefly for medical reasons, as to which we may claim to have expert knowledge.

The intimate connection between the use of strong alcoholic stimulants and the contraction of venereal diseases is well known to us in civil life and holds good equally in military life. A small minority of young men no doubt deliberately incur the danger, but the large majority first lose their self-control and have their passions inflamed by alcohol and then, if in the army, resort to what the surgeon-general in 1889 well called "the dens of dissipation and disease just beyond the jurisdiction of the commanding officer" where they are further supplied with impure and often drugged whiskey, robbed of their hard-earned pay and often, if not indeed generally, contract disease. It is by reason of this latter phase of the matter that we especially urge the reestablishment of the canteen.

Few non-medical men realize the frequency and the disastrous consequences of venereal diseases, whether in civil life or in the army. "The statistics collected in 1908 by the President's Homes Commission, show that out of 274,811 patients treated in the city hospitals of Washington there were 27,947 cases of venereal disease."[2]

"In 1901, a committee of seven, under the auspices of the Medical Society of the County of New York, made an investigation into the prevalence of venereal diseases, and concluded that there were not less than 245,000 cases of venereal diseases treated in one year in that city. During the same year there were only 41,585 other cases of infectious or communicable diseases reported to the health department, viz., measles, 12,570; diphtheria, 11,001; tuberculosis, 8,877; scarlet fever, 7,787; chickenpox, 90. In other words, the [total of] venereal diseases was nearly six times greater than that from all the above named infectious diseases combined."[3]

According to Dr. Prince A. Morrow, who has studied and written much on the subject, 10 per cent. of the men who marry infect their wives. The report of the New York committee "would indicate that nearly 30 per cent. of all venereal infections occurring in women in private practice in the city are communicated by their husbands;" and from his personal observations at the New York hospitals over a period of several years, Dr. Morrow concludes that "fully 70 per cent. of all women who come therein for treatment were respectable married women who had been infected by their husbands."[4] "The Tragedy of the Marriage Altar"[4] is no myth, but a dreadful and sorrowful fact. One form of the disease (gonorrhea) is responsible for a very large number of sterile marriages. To it are due, as estimated by various authors, from 20 per cent. to 40 per cent. (and some writers give even much higher percentages) of the cases of pelvic disease in women, many if not most of which require abdominal operations.

Dr. Swan M. Burnett, professor of ophthalmology in Georgetown University, believes that at least 15,000 of the 50,000 blind in the United States have lost their sight because their eyes became infected at birth from their infected though often innocent mothers.

Another form (syphilis) is often communicated by husbands to their innocent wives. A woman so infected suffers abortion after abortion and if living children are born three out of four (happily for themselves) die very early or if they sur-

1. North Am. Rev., March, 1911, pp. 421, 410, 411.
2. Jour. Am. Pub. Health Assn., March, 1911, p. 166.
3. Idem, p. 167.
4. Ladies' Home Jour., October, 1908.

V. 57 1911

vive they carry the (most often) paternal curse with them through life. Many a wet-nurse has been infected by such a syphilitic infant. Public drinking-cups, the tubes used in glass blowing, and occasionally kissing have propagated the disease. Nearly every one of us knows medical friends who have been infected by making professional examinations while suffering from unobserved hang-nails or abrasions, and have suffered untold misery for years or for life.

Turning from civil life to the army, what are the facts there? "The venereal peril," says Surgeon-General Torney,[5] "has come to outweigh in importance any other sanitary question which now confronts the army and neither our national optimism nor the Anglo-Saxon disposition to ignore a subject which is offensive to public prudery can no longer excuse a frank and honest confrontation of the problem." Are these strong words justified? Let us see. "Reports since the Spanish-American War show a steady and progressive increase in this class of diseases, so that the admission rate, which was 8.46 per cent. in 1897, has now reached the enormous figure of 19.7 per cent."[6] In other words, for the last six years very nearly one-fifth of the entire army has suffered from venereal diseases every year and to that extent, while ill, have diminished its effective force. "These figures," again says the surgeon-general, "are all out of proportion to those which obtain in the European armies, the rates for the latter being, according to the latest obtainable information:

"British (at home 6.8 per cent.)	7.6 per cent.
"Austro-Hungarian	5.4 per cent.
"French (at home 2.8 per cent.)	3.5 per cent.
"Prussian	1.9 per cent.
"Bavarian	1.5 per cent."

(We have taken the liberty of changing the proportion from per 1,000 to per cent.)

Were this all it would be bad enough. But, as we have already shown, the soldier himself is not the only one to bear the penalty. Our army is very largely composed of young unmarried men. When they marry they should become fathers of healthy children, and so add to our population, vitality and success as a nation. But the fact is that among those who have contracted venereal diseases in the army a considerable proportion of their marriages will be sterile, others will be characterized by many abortions, and their living children will be defective, blind and diseased. What the sorrows of their infected wives may be we know in part, the rest can only be surmised.

What now are the remedies proposed by the surgeon-general himself? In his report of July 1, 1910, he urges proper surgical treatment, but especially prevention and education:

"The organization of soldiers' clubs, canteens, etc., where enlisted men can find amusement and recreation sufficiently attractive to keep them at home and away from vile resorts."

"The formation of temperance associations among the enlisted men, the association of intemperance and venereal indulgence being well understood."

"Instruction of the men by lectures and by informal advice whenever the opportunity offers as to the nature of venereal diseases, the extent of their prevalence among prostitutes, and the grave peril not only to those who contract them, but to their families and posterity. They should also be taught that sexual intercourse is not necessary to good health and the highest degree of mental and physical vigor."

These are in line with the proposals of Lord Roberts for the British army in India.[6] He did not abolish the liquor bar in the canteen, but restricted its size and its sales chiefly to beer and encouraged the furnishing of recreation rooms, the promotion of temperance societies, etc., "an arrangement," he says, "which has been followed by the happiest results." Exactly the same condition existed in our former army canteen, and we believe would prevail again.

The demands of military discipline require the soldier to surrender, for the good of the state, much of his individual liberty and many of the privileges enjoyed by other citizens. Is it wise further to restrict these by legislation in a way which not only does not contribute to military discipline but, as we learn from the almost unanimous testimony of army officers, impairs it? Soldiers are required by the special conditions of military life to give up their home life, and the moral protection of marriage, and to live a life of enforced celibacy. Is it wise to diminish the attractions of their club, and to increase the moral and physical risks of their environment by act of Congress?

5. Report of the Surgeon-General of the Army, July 1, 1910, pp. 59 and 60.
6. Forty-One Years in India, II, 418-421

In view of what we have set forth above, we respectfully pray your honorable bodies in the interest of temperance; of military order and efficiency; and of the health and happiness of our soldiers and of their future wives and children to reestablish the canteen in the United States Army by passing the Bartholdt Bill (H. R. No. 30).

Colonies for Feeble-Minded.—It is argued by some that to commit an individual that showed no very clear marked signs of mental defect, to a semipenal institution would be a gross infringement of the liberty of the subject, and that, as there is sometimes difficulty in diagnosing the border-line cases of feeble-mindedness was urged for the defense, and ultimately branding of such cases as persons dangerous to the community, unless and until they have revealed their tendencies by some antisocial act. This argument is a specious one, and is founded chiefly on the prevailing ignorance of the nature of mental and moral defect. Granted that the liberty of the subject must be sedulously safeguarded, it must be pointed out that the experience of every colony and institution proves that the feebly-gifted person feels no deprivation of liberty by reason of his intellectual limitations, and because he is relieved from the storm and stress of the struggle for existence, under which conditions alone he is capable of self-support. It must be remembered further that such segregation entails infinitely less anxiety and trouble to the relatives and to the community than that occasioned by the perpetration of some criminal act which may cause life-long sorrow to all concerned. Take, for example, a recent trial for murder at the Birmingham Assizes, in which the plea of feeble-mindedness was urged for the defense, and ultimately earned a commutation of the death sentence. Had the lad in question been relegated to a colony for such cases his family would have been spared the ordeal of a criminal trial, while the parents of his victim would not have had to bear the burden of sorrow for a young life so needlessly and cruelly cut off.—G. A. Auden in *Jour. Crim. Law and Criminology.*

Bubbling Cup Attachment for a Pump.—It now develops that the bubbling cup does not necessarily require a running water-supply. Recently the pump has been modernized to serve the sanitary drinking idea and the adaptation seems both simple and practical. Three or four movements of the handle fill the cylinder at the top, which holds a gallon of water, which then flows through the bubbling cup and the waste water runs out the nozzle below. This timely invention ought to be employed at every rural school house, or at any place where large gatherings take place; and, in the course of a short time, it should be found on every farm. The country practitioner who so often was baffled by the apparently mysterious spread of an epidemic should look for such devices as this modernized pump; they might be important factors in preventive medicine.

Tetanus.—The occurrence of tetanus after the injection of quinin in the treatment of malaria, even when every possible care has been taken to insure the sterility of the solution and of the syringe, has been investigated by Sir D. Semple of the Indian Government Service. He says that it is a curious fact that tetanus spores, free from other organisms and free from any adherent toxin, may be injected into an animal without harm and may remain latent at the site of the inoculation for months. If, however, the spores have adherent toxin on them or if some weak lactic acid is injected at the same time, the organism grows and multiplies and sets up tetanus. Apparently, he says, some agent must be present to lessen the resistance of the tissues before tetanus can develop. In his memoir he says that he finds that quinin injected into the tissues produces necrosis at the site of injection and that pure

washed tetanus spores mixed with quinin and injected always cause tetanus, which may even occur when the quinin injection is at a point remote from the washed tetanus spores. He therefore suggests that the tetanus following quinin injections, when every precaution has been taken, may be due to tetanus spores lying latent in some situation introduced by some previous wound or otherwise and activated by the quinin injection. A small dose of tetanus antitoxin given at the same time as the quinin injection will effectually prevent the development of tetanus. Tetanus infection is sometimes present in the bowel of a healthy individual and we can readily suppose that it might possibly, in view of the above stated facts, be a possible source of trouble. Semple's explanation may account for some mysterious cases of tetanus occurring after vaccination or prophylactic injections that have been extensively utilized by antivaccinationist writers. Some authorities have held that tetanus may occur in a mild or abortive form and it is not impossible that many really infected wounds have given no symptoms that were noticed by the individual. It might be a good precaution in some regions where tetanus is more or less endemic, as is said to be sometimes the case, especially in hot countries, to have tetanus antitoxin used in connection with vaccination or serum treatment. Semple also finds that rabies virus is killed by a 1 per cent. solution of phenol in twenty-four hours at a temperature of 37 C., but still forms a safe and sufficient anti-rabic vaccine, and he suggests that this method may be employed in the prophylactic antirabic treatment.

Deterioration of Meat by the Fright of the Animals.—The unfavorable conditions under which beef cattle are slaughtered in France and the ill effects which may be caused by the meat of animals killed when in a depressed nervous state are the theme of a communication to the *Presse Médicale* (July 12, 1911) by Bonnette. He refers to his experience when as a sanitary inspector of meat for the army he had occasion to examine the animals both before and after slaughter. Cattle may be divided into two classes: first, those that are generally quite fat, but non-excitable, although their appetite may fail in the conditions in which they are placed while waiting to be killed, and second, those that are less fat, indicate a sensitiveness to their abnormal surroundings, listen to every sound and are affected by the smell of blood. Their appetite fails and they lose flesh during their stay in the pens. Some seem possessed with a genuine fear of death. The two classes behave quite differently when driven to slaughter. The first are apathetic and go willingly or with little urging to their place; the others attempt to escape, tremble, defecate and resist until they are forced to receive the fatal blow. Bonnette thinks such agitation has an ill effect on the processes occurring in the tissues both before and after death. He suggests that the pens in which animals intended for slaughter are confined be removed to a distance sufficient to avoid disquieting sounds and smells, that these pens be connected with runways that will allow the animals a desirable amount of liberty, and that when the time for slaughter has come they be conveyed to the place of death in cars that will prevent exciting and fatiguing driving.

Sewage and Garbage Disposal in Berlin.—According to A. M. Thackara, consul-general at Berlin, Germany, that city has a practical method of disposal of sewage, garbage and street sweepings. He says: No sewage is permitted to be discharged into the river or canals that pass through the city. It is all pumped through large pipes to the city sewage farms a few miles north and south of Berlin. Of the 40,000 acres, about 6,200 are leased in small holdings to farmers and the remainder cultivated by the municipal authorities. While the city administration supervises the cleaning of the streets, the disposal of the sweepings and refuse gathered is left to various contractors. Some of these concerns have purchased barren and unproductive land to be used as dumping grounds, and as the garbage contains principally sand and horse manure, it is exceedingly valuable as a fertilizer and filler for such lands. By law and by municipal police regulations, house owners are obliged to provide for the removal of the waste from their buildings. For this purpose they have formed an association that includes most of the owners in Berlin. This association has made a contract for thirty years, twenty-one of which are still to run, with a limited liability company, which was formed for the purpose of disposing of household and other waste. They have erected a building for the purpose of handling the garbage, disinfecting it, and separating the different articles, such as metal, rags and bones. All the refuse is then disposed of for fattening hogs, fertilising, paper making, grading, etc. Ingeniously contrived wagons are used in collecting the garbage. In every building large sheet-iron tanks or buckets are placed. The daily refuse is thrown into these tanks, which are capable of holding 100 or 200 pounds of ashes and garbage, and which close with a lid. The ashes and garbage are placed in separate receptacles. On certain mornings of the week the tanks are collected by wagons accompanied by three or four men. The wagons are large and tightly covered. A chain elevator is arranged so that a bucket can be placed on a shelf on the side of the wagon and then raised and dumped into the wagon without permitting any of the dust to escape. Ash barrels or other such receptacles are not permitted on the streets in Berlin. The experiment of burning the organic waste of Berlin was tried, but it proved costly and unsuccessful and was abandoned.

Early Diagnosis of Cancer.—Fischer-Defoy's monograph on this subject was awarded the first prize in the recent competition organized by the German Cancer Research Committee. It is published in full in the last *Zeitschrift für Krebsforschung*, 1911, XI, 65. He cites statistics to show that in nearly one-fourth of all the cancer cases the diagnosis is made only at necropsy. He discusses the early signs and symptoms of cancer at the forty-five different parts of the body liable to be the seat of malignant disease, in alphabetical order from *Anus* to *Zunge* (tongue). He rejects the idea of contagion and heredity of cancer but admits the possibility of certain local favoring factors, such as prevalence along certain streams. He emphasizes that cancer may occur at any age and that exceptions are liable to the general rule that the malignant lesion is single. Persistent loss of weight, pallor and tendency to chilliness may be evidence of a carcinoma still in its incipiency, but a healthy, robust appearance should never divert the physician from the idea of cancer. The serologic tests are still confined to the laboratories, and are generally positive only in advanced malignant disease. The natural color of the hair is often retained with cancer, but this has no diagnostic value. Incipient cancer generally causes no symptoms or at most they point merely to some special organ. An ulcerating gumma never has the ridge around the edge, like cancer, and the regional lymph-nodes show no change, but he warns that the patient may have both syphilis and cancer, and old syphilitic lesions on the tongue seem to invite cancer. He warns that calling in laboratory aid generally means delay, while time is so important in cancer cases; he adds that laboratory findings are valuable only when weighed in connection with the most painstaking repeated physical examination and study of the history of the case. Direct local examination with electric lights and the Roentgen rays should not be neglected if needed, but microscopic examination is liable to be misleading if too minute scraps are obtained. Cancer pearls are unmistakable but are not found exclusively with carcinoma. Examination under general anesthesia frequently clears up the diagnosis; it is not applied in as many cases as it should be. The individual waits for pains and thus permits the phase of operability to pass, but cancer often runs its entire course without any pain.

Vital Statistics.—Newsholme has defined vital statistics as the science of numbers applied to the life history of communities and nations; Wilbur, as the Cinderella of modern public hygiene, sitting in the chimney corner sifting the ashes of dusty figures while the proud sisters, Bacteriology and Preventive Medicine, go to the ball and talk about the wonderful things they have done. The term might also be defined as the numerical registration and tabulation of population, marriages, births, diseases, and deaths, coupled with analyses of the resulting numerical phenomena with the end in view of "searchlighting" the path of sanitary progress.—W. H. Guilfoy in *Journal American Public Health Association.*

V. 57 1911

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

MEDICAL JOURNALS AND THE GREAT AMERICAN FRAUD

Elsewhere in this issue[1] we discuss in general terms the ethics of medical advertising and the attitude taken by physicians toward medical journals that violate the principles of such ethics. The *American Journal of Surgery* is a good example of the evil against which we are protesting. In its editorial and reading pages generally, there is little to criticize and much to praise. In the advertising pages, however, conditions are reversed. Incidentally, the advertising pages of this journal outnumber the reading pages nearly two to one. However, this is immaterial. The point is, that page after page is given over to the exploitation of the worst kind of nostrums. Here are some of them:

Antikamnia	Bromidia
Phenalgin	Celerina
Micajah's Wafers	Resor-Bismol
Tyree's Antiseptic Powder	McArthur's Syrup of Hypophosphites
Campho-Phenique	Hayden's Viburnum Compound
Anasarcin	Gray's Glycerine Tonic
Sal Hepatica	Listerine
Cactina Pillets	Pellow's Syrup of Hypophosphites
H-M-C	Pepto-Mangan
Resinol	Pinus Canadensis
Ecthol	Dioviburnia
Hagee's Cod Liver Oil Compound	Neurosine
Geneosa	Peacock's Bromides
Coichi-Sal	Chlonia
Scott's Emulsion	Prunoids
Hydrosone	Sceng
Glycosone	Antiphlogistine
Papine	Glycothymoline
Tongaline	Unguentine
Aletris Cordial Rio	

As will be noticed, many of the above are frauds that have been exposed in THE JOURNAL. All of them have failed to obtain recognition by the Council on Pharmacy and Chemistry, and inclusion in New and Nonofficial Remedies. All of them could be rejected and the physician's armamentarium be none the poorer—in fact, the public would be a distinct gainer. Now, what is the attitude of the medical profession toward a journal that offers such products to the medical profession—that lends its pages to the exploitation of such nostrums? Of its subscription list, we cannot speak; it may be good, bad or indifferent. Its list of contributors, however, is necessarily an open book and from it we are able to judge to what extent men, high in the profession, lend their influence to the furtherance of one of the greatest evils that, to-day, besets the medical profession and, through the medical profession, the public.

In circular letters and in an editorial announcement in its December issue, the *American Journal of Surgery* "features"—to use a newspaper term—some of the contributors to its January issue. The list comprises men who hold or have held high offices in the American Medical Association. Presidents, vice-presidents, chairmen, secretaries and members of sections of the Association—these are some of the men whose names appear as contributors to this nostrum-promoting publication.

Is it any wonder that the proprietors of the *American Journal of Surgery* assume an attitude of indifference to the class of proprietary preparations which they admit to the pages of their publication? Is it any wonder that they—and other commercial interests—look on the propaganda for reform in proprietary medicines, instituted by the American Medical Association, as a joke? Is it any wonder that these men assume—with a large degree of reason—that the prominent men in the American Medical Association repudiate the propaganda work of the Association? Surely it would be expecting too much from men who are in the business of publishing medical journals to refuse money, however tainted, so long as they receive no protest either in word or deed from, but on the contrary, the cooperation of, men who are regarded as leaders in the medical profession.

1. Editorial department, "Cui Bono," page 2000.

ALCOHOLIC CONTENT OF ELIXIRS

The November meeting of the Washington Branch of the American Pharmaceutical Association was devoted to the discussion of the new low-alcohol-content elixirs which it is proposed to include in the forthcoming edition of the National Formulary, so as to give physicians a choice of vehicles containing varying amounts of alcohol. While the principles actuating the inclusion of these preparations were commended, it was also thought that the Committee on National Formulary might well go even further and eliminate, or at least reduce, the alcohol in many other N. F. preparations.

It was clearly shown that the introduction of elixirs and other "permanent" proprietaries was followed by the rather wide-spread use of many of these mixtures as vehicles for more active medicaments, the physician usually losing sight of the fact that the preparation he was prescribing contained from 20 to 50 per cent. of alcohol and was, in fact, the equivalent of ordinary whisky. It was suggested that probably the so-called "patent-medicine" manufacturer was really to blame for the introduction of alcohol-containing proprietaries and the subsequent inclusion of preparations of this type in the U. S. P. and N. F., and that now, being compelled by legislative measures and an awakened public opinion to forsake the use of alcohol in "patents," he would no doubt drive the drug trade generally to the disuse of alcohol for all purposes other than as a solvent.

W. S. Richardson called attention to the fact that during the years that he has been engaged in the drug business the diluent or vehicle used in extemporaneous prescriptions had changed from aromatic waters and syrups to elixirs and cordials, and that the use of these preparations, largely owing to the fact that they have been included in the U. S. P. and the N. F., has become so general that it is not an uncommon occurrence to find a prescription for a child directing that some comparatively simple medicament be dissolved in the official aromatic elixir containing upward of 25 per cent. alcohol.

W. H. Bradbury pointed out that in addition to the U. S. P. aromatic elixir, the elixir of caliaya N. F. and the digestive elixir N. F. are perhaps the most widely used vehicles or diluents and are equally objectionable because of the contained alcohol. The latter preparation he considered to be particularly objectionable, in that the name as well as the formula would lead the unwary physician to believe that he was prescribing a mixture of the digestive ferments, when in reality he was directing his patient to take a strongly alcoholic cordial.

Lyman F. Kebler stated that the Internal Revenue Department had been severely hampered in its campaign against alcohol containing nostrums by the inclusion in the Pharmacopeia and in the National Formulary of a number of strongly alcoholic preparations that could be and were being used as tipples. One of the most widely abused of these preparations, he asserted, was the Beef, Wine and Iron of the National Formulary. Druggists in many sections of this country are regularly advertising this preparation at 25 cents per pint bottle, and in prohibition districts particularly it is a popular beverage.

Prof. H. E. Kalusowski expressed the belief that the proposed elixir of formates could readily be replaced by non-alcoholic preparations; so could the elixir of glycerophosphates and a number of other National Formulary preparations that are as yet not thoroughly established as alcohol-containing mixtures. He also pointed out that the U. S. P. includes proportionately more alcohol-containing preparations than did any of the recently published foreign pharmacopeias. He believed that alcohol should not be used primarily as a preservative, but as a solvent.

On motion, the following resolution was unanimously endorsed as representing the consensus of opinion of the members present so far as the National Formulary preparations are concerned:

Be it resolved, That the members of the City of Washington Branch of the American Pharmaceutical Association present at this meeting regard with regretful disfavor the continuance, in the National Formulary, of preparations that can be used as tipples, and suggest that the alcohol in all National Formulary preparations be reduced or eliminated wherever not actually necessary as a solvent.

THE DE BARTHE TREATMENT

A Rheumatism Cure Conducted Under the Auspices of the Neal Institute

We have received a number of inquiries about a Chicago concern known as the "DeBarthe Treatment for Rheumatism." The so-called treatment is "administered" at the Chicago Hospital, which was purchased from reputable physicians some time ago by the persons who, under the name of the Neal Institute, are exploiting a "three-day liquor cure."

Of the "treatment" employed by the Neal Institute in the "cure" of the liquor habit, we have nothing to say at present. We believe that physicians are not informed as to the details of this "cure," although physicians are offered a 20 per cent. commission on all patients sent to the institute! In passing, it may be said that B. E. Neal, the "founder" of the Neal Institute, is reported to have been sued by the Gatlin Institute, another concern in the "three-day liquor cure" business. The Gatlin Institute is said to have declared that Neal, who was in its employ for about six years, used the secrets learned when in its employ and that, too, in spite of the fact that Neal is alleged to have made an oral contract not to divulge what he learned as an employee and not to employ the methods that he learned in a similar business if ever he severed his connection with the Gatlin Institute.

The president of the Neal Institute is one James E. Bruce, also president of the "DeBarthe Treatment for Rheumatism." The DeBarthe treatment is advertised by methods common to quackery. For example, in a Chicago paper a few months ago, an advertisement appeared headed in large black letters:

"Chicago Physician has Positive Cure for Rheumatism. Dr. DeBarthe's Treatment a Universal Success."

Some of the claims made for the DeBarthe Treatment are:

"A cure is within the reach of all."
"We cure all forms of rheumatism that are curable."
"An absolute cure for rheumatism in all its various forms."
"An Internal Turkish bath that cures rheumatism, liver, stomach and nervous diseases."
"All forms of rheumatism are amenable to its administration."
"There is no recurrence of the trouble."
"Consists of purely vegetable and perfectly harmless medicines taken internally." [Reminds one of Lydia Pinkham.]

On the stationery of the DeBarthe concern, in addition to the president's name, two other names appear—"John Alexander Ross, Physician in Charge," and "Dr. Jos. DeBarthe, Director Medical Dep't." What the DeBarthe treatment is, we do not know. A letter from a physician, regarding this concern, says, in part:

"The agent representing the DeBarthe Co. gives the Chicago Hospital, Chicago, Ill., as their address. They seek to sell their treatment, consisting of medicine of secret formula, at $25 a treatment to physicians or institutions and require an initial payment of $1,000 on account."

So far as we can learn, DeBarthe is not a physician. Certainly he is not licensed in Illinois. In fact, the secretary of the Illinois State Board of Health states that he has authorized the state's attorney in Cook County to prosecute DeBarthe if at any time he is found to be practicing medicine in Illinois. We understand that DeBarthe used to live at Sheridan, Wyo., where he was a lawyer and a newspaper man. He left there some time ago and coming to Chicago he was connected with the Metropolitan Medical College, a notorious diploma mill, that was put out of business by the government. DeBarthe's name appeared in the list of the faculty of the "institution" with the letters "M.D., LL.D.," after it and the titles "Professor of Medical Jurisprudence" and "Lecturer on Electrology and Electrotherapeutics." Whether DeBarthe got his M.D. degree from the school in which he was a "professor," we do not know.

In this connection, the following sidelight on DeBarthe and his methods will be of interest. In November, 1910, THE JOURNAL received a letter from a Mr. L. of M., Ohio. Mr. L.'s story was briefly as follows: For twelve years his wife had been affected with rheumatism and was unable to walk more than a few steps. DeBarthe, who had been treating patients in X——, O., heard of the case and came over to Mr. L.'s house. He told L. that he could put Mrs. L. "on her feet in one year," but he required $250 in advance before he would take the case. Mr. L. sent DeBarthe the $250 and received some medicine, which, he claims, DeBarthe valued at $50. Treatment was commenced October 18, 1910, at which time Mrs. L. was in her usual state of health. She died eleven days later—October 29, 1910. When Mr. L. saw that his wife

Photographic reproduction of one of the diplomas issued by the fraudulent Metropolitan Medical College. Notice DeBarthe's signature just under that of Armstrong, who was sentenced to one year in jail and a fine of $500 for conducting the fraud. Exposed in THE JOURNAL A. M. A., March 12, 1898, Oct. 14 and 21, 1899, and Nov. 3, 1900.

was becoming seriously ill under the treatment, he both telegraphed and telephoned DeBarthe to come immediately. This DeBarthe refused to do and told L. over the telephone, that he was unduly alarmed, that his wife would not die and that he did not think it necessary to call in a local physician. After his wife's death, Mr. L. sent the death certificate to Chicago where it was signed by DeBarthe and returned to him.

Such briefly is the story told by Mr. L. Investigation proved that DeBarthe was not licensed to practice in Illinois nor in Ohio. We have, therefore, the spectacle of a man living in Illinois, practicing in Ohio and signing death certificates although he has no legal right to practice in either state. In fact, so far as we know, DeBarthe has no legal right to practice in any state.

From what has been said, the medical profession will have little difficulty in assigning the DeBarthe Institute to its proper niche in the hall of fakes and humbugs.

V. 5 1911

Marriages

CHARLES MALLORY REMSEN, M.D., Atlanta, Ga., to Miss Elizabeth Olive Patterson of Denison, Ia., at New York City, November 29.

JOHN WESLEY BOVEE, M.D., Washington, D. C., to Mrs. Caroline Copley Wemple of Chaumont, N. Y., at Auburn, N. Y., November 27.

CHARLES BRADFORD RODES, M.D., Butte, Mont., to Miss Clarissa Spellman of Anaconda, Mont., at Helena, November 26.

NELSON D. BEATTON, M.D., Phoenix, Ariz., to Miss Lillie May Terry of Williams, Ariz., at Cynthiana, Ky., November 30.

ROBERT L. NEFF, M.D., Joplin, Mo., to Mrs. Carrie R. Dixon of West Townsend, Vt., at Carthage, Mo., November 28.

CHARLES F. FRETTAG, M.D., Rock Island, Ill., to Miss Martha M. Beatty of Avening, Ont., at Chicago, November 25.

COLERIDGE L. BEAVEN, M.D., Fairmont, W. Va., to Miss Hedwig Margaret Wanke, at Baltimore, November 21.

EMERSON A. NORTH, M.D., Lima, O., to Miss Edna J. Schwarm of Avondale, Cincinnati, November 20.

LEO GEORGE SCHEURICH, M.D., Tomah, Wis., to Miss Margaret M. Gasper of Adrian, Wis., November 22.

WILLIAM HENRY SPENCER, M.D., to Miss Bertha Wenig, both of Cedar Rapids, Ia., at Chicago, November 15.

ROBERT HENRY FOWLER, M.D., to Miss Caroline Auchincloss, both of New York City, November 29.

FLOYD M. FREEMAN, M.D., Goshen, Ind., to Miss Elisabeth Miller of Sturgis, Ind., November 30.

SAMUEL DAVID SHULL, M.D., to Miss Elva W. Hutton, both of Chambersburg, Pa., November 29.

ALFRED H. POTTER, M.D., to Miss Helen Foerster, both of Columbus, O., November 29.

ERNEST MILLER, M.D., Newman, Ill., to Miss Opal Spaugh of Hope, Ind., recently.

Deaths

EZRA SPENCER MCCLELLAN (licentiate New York State Medical Society, 1874); died at the home of his daughter in Northampton, Mass., December 2, from cerebral hemorrhage, aged 87. Dr. McClellan was a pioneer in the field of sanitation and in great measure to his efforts was due the adoption of the first antispitting ordinance passed in the state, at Saranac Lake in 1896. He also, while health officer of Saranac Lake, put in force the compulsory disinfection of rooms vacated by tuberculosis patients together with other preventive ordinances. Through his efforts, an efficient sewer system for Saranac Lake was mapped out and an inexhaustible supply of pure water obtained for the city. For several years he had been working diligently in the endeavor to educate dairymen and the people to the realization and necessity of milk inspection, and last summer an ordinance was passed providing for the official inspection, by the board of health, of all dairy products sold in Saranac Lake. Dr. McClellan was a member of the American Medical Association and the American Public Health Association and was formerly president of the Northern New York Medical Association. From 1896 to 1907 he served as president of the Saranac Lake Board of Health and the brief which he compiled and submitted to the International Tuberculosis Congress at Washington showing the ways and means for the prevention of tuberculosis infection as enforced by the board, was awarded the silver medal by the congress.

David R. Silver, M.D. Jefferson Medical College, 1868; to whom probably more than to any other one man credit is due for the remarkable housecleaning that has taken place in the past four or five years in the advertising pages of religious journals; died in Christ Hospital, Cincinnati, December 6, after an operation for prostatectomy, aged 68. Dr. Silver was a member of the American Medical Association; and formerly president of the Ohio State Medical Association; had served several terms as a member of the board of education and board of health of Sidney, O., and was a member of the board of trustees Miami University, Oxford, and local surgeon of the Big Four System at Sidney. He was a prominent advocate of temperance and was instrumental in securing the passage of many bills through the legislature relating to the practice of medicine and the welfare of medical practitioners. He was president of the Ohio League for the Suppression of Fraudulent Advertising, an organization composed largely of physicians who worked steadily and conscientiously for the object expressed in the title of their organization.

Alonzo De Los Wilkinson, M.D. Missouri Medical College, St. Louis, 1882; one of the most prominent physicians in Lincoln, Neb.; a member of the American Medical Association, and for many years secretary of the Nebraska Medical Association; died in Lincoln, December 5, from pneumonia, aged 54. Dr. Wilkinson was born in West Lebanon, Pa., and after practicing in Creston, Ill., and Denison, Ia., settled in 1894 at Lincoln. He was at one time professor of diseases of children of the medical department of Wesleyan University. He was also local surgeon for the Missouri Pacific Railway and medical director of the Security Mutual Life Insurance Company of Lincoln.

George LeRoy Rice, M.D. George Washington University, Washington, D. C., 1863; a member of the Massachusetts Medical Society; assistant surgeon and on duty in hospitals of St. Louis, Memphis and Savannah during the Civil War; for one term postmaster, city physician and a member of the board of education of North Adams, Mass., and for twenty-three years a member of the staff of the North Adams Hospital; died at the home of his daughter in Salamanca, N. Y., November 23, aged 73.

Katherine Snyder Busse, M.D. University of Michigan, Ann Arbor, 1888; for twenty years a practitioner of Evansville, Ind.; a member of the staff of the Southern Indiana State Hospital, Woodmere, from 1892 to 1896, and later a member of the consulting staff of the Southeastern Indiana State Hospital, Madison, of which her husband was superintendent, died at Madison, November 26, from cerebral hemorrhage, aged 48.

Willard Newton Smart, M.D. Long Island College Hospital, Brooklyn, 1871; a member of the American Medical Association and formerly president of the Southern California and San Diego County medical societies; formerly acting assistant surgeon, U. S. M.-H. Service; a specialist on diseases of the eye, ear, nose and throat; died at his home in San Diego, October 23, aged 62.

Lieutenant Wilmont Elton Brown, M.D., Starling Medical College, Columbus, O., 1897; Lieutenant, M. R. C., U. S. Army; died at Fort Bayard, N. Mex., November 17, from tuberculosis, aged 38. Dr. Brown served in the Philippine Islands for nearly two years; while there he contracted tuberculosis and in 1906 was ordered to Fort Bayard.

Joseph Eugene Vidal, M.D. College of Physicians and Surgeons, New York City, 1883; of Stapleton, Long Island, N. Y.; formerly a member of the American Medical Association and for several years a member of the staff of the S. R. Smith Infirmary, Stapleton; died in the Presbyterian Hospital, New York City, November 19, aged 50.

Edward Meany, M.D. University of Buffalo, 1887; a member and former president of the Tompkins County (N. Y.) Medical Society; of the American Medical Association; first health officer of Ithaca, N. Y., and president of the Ithaca Realty Company; died at his home in Ithaca, November 21, from cerebral hemorrhage, aged 46.

Merritt Bates Campbell, M.D. Harvard Medical School, 1866; of Los Angeles, Cal.; formerly medical cadet, U. S. Army; for twelve years physician to the Illinois State Penitentiary, Joliet; superintendent of the Southern California State Hospital, Patton, for eleven years; died suddenly at Heber, Cal., December 2, aged 68.

William C. Parry, M.D. Jefferson Medical College, 1872; a member of the Medical Society of New Jersey; state senator from 1895 to 1898; president of the Burlington County Trolley Company; died at his home in Hainesport, November 28, from pneumonia, aged 62.

John McMahon, M.D. Jefferson Medical College, 1881; the founder of the Women's and Children's Hospital, San Jose, Cal., formerly known as the McMahon Hospital; died at his home in San Jose, November 18, from cerebral hemorrhage, aged 56.

Clarence Wilson Datesman, M.D. New York Homeopathic Medical College, 1903; formerly of Oradell, N. J.; died at his home in Pine, Colo., October 6, from pulmonary tuberculosis, aged 32.

Adolph Blitz, M.D. Cincinnati College of Medicine and Surgery, 1873; a veteran of the Civil War and a specialist in diseases of the eye, ear, nose and throat of Boise, Ida.; formerly a member of the American Medical Association; died at his home in Boise, November 19, from carcinoma of the stomach, aged 66.

Milton Robert Bailey, M.D. Western Reserve University, Cleveland, O., 1882; of East Peoria, Ill.; local surgeon of the Peoria and Pekin Union Railroad; for several years treasurer of the village and a member of the board of school inspectors; died in St. Francis Hospital, Peoria, November 22, from tuberculosis, aged 56.

Leroy M. Bingham, M.D. University of Vermont, Burlington, 1870; a member of the Vermont State Medical Society; for twenty years chief of the surgical staff of the Mary Fletcher Hospital, Burlington; chief surgeon of the Rutland Railroad; died at his home in Burlington, November 27, aged 66.

William Flowers Scales, M.D. University of Alabama, Mobile, 1887; formerly a member of the American Medical Association; for twenty years a practitioner of Macon, Miss., and local surgeon of the Mobile and Ohio Railroad; died in Providence Hospital, Mobile, September 23, aged 47.

David Corwin Bice, M.D. State University of Iowa, Iowa City, 1875; a member of the American Medical Association; formerly of De Soto and Des Moines, Ia.; died in St. Luke's Hospital, Denver, November 26, after an abdominal section, aged 59.

John Wagner, M.D. Cooper Medical College, 1873; of San Francisco; a member of the American Medical Association and a veteran of the Civil War; died from heart disease while cranking his automobile, November 22, aged 63.

Martin Schnabel, M.D. University of California, San Francisco, 1873; a member of the Medical Society of the State of California; formerly of Newcastle; died at his home in Sacramento, November 21, aged 65.

Will McCaw, M.D. College of Physicians and Surgeons, New York City, 1888; a member of the Medical Society of the State of New York; of Geneva; died in Albuquerque, N. Mex., November 16, aged 48.

Jacob L. Fuller, M.D. Memphis Hospital Medical College, 1907; died at his home in Humboldt, Tenn., November 23, from injuries received in a fall several months before, aged 52.

Cyrus Otway Weller, M.D. Jefferson Medical College, 1869; a member of the State Medical Association of Texas; died at his home in Austin, November 1, from influenza, aged 70.

Walter Newton Humphrey, M.D. Jefferson Medical College, 1893; a member of the Allegheny County Medical Society; died at his home in Sharpsburg, Pa., recently, aged 41.

H. C. Barkhousen (years of practice, Illinois, 1877); said to have been the oldest practitioner in Alexander County; died at his home in Unity, November 9, aged 94.

William H. Somerville, M.D. Hahnemann Medical College, Philadelphia, 1881; died at his home in Kensington, Philadelphia, November 6, from nephritis, aged 55.

James Ellison Venters, M.D. Hospital College of Medicine, Louisville, 1906; died at his home in Whitesburg, Ky., November 24, from typhoid fever, aged 36.

Charles E. Thomas, M.D. Jefferson Medical College, 1857; of Woodbury, N. J.; died suddenly in Philadelphia, November 13, from heart disease, aged 73.

Bennett Thomas Welch, University of Buffalo, N. Y., 1907; of Buffalo, N. Y.; died in Butte, Mont., October 29, from typhoid fever, aged 27.

Ollie C. Brake, M.D. Birmingham (Ala.) Medical College, 1908; of Raton, N. M.; died recently from hemorrhage of the bowels, aged 35.

Clifford Emmett Allen, M.D. University of California, San Francisco, 1896; died at his home in Stockton, Cal., November 5, aged 40.

Carrie F. Young, M.D. California Medical College (Eclectic), San Francisco, 1884; died at her home in Berkeley, November 3, aged 83.

Albert D. Alexander, M.D. University of Alabama, Mobile, 1888; of Merrouge, La.; died at Hot Springs, Ark., May 17, aged 45.

Jacob Sears Starr (license, Iowa, 1886; years of practice); died at his home in Lacona, November 4, aged 79.

Correspondence

Rebreathing in Anesthesia

To the Editor:—I desire to correct the report of my remarks (THE JOURNAL, Nov. 11, 1911, p. 1611) in the discussion of the paper by Dr. Gatch on anesthesia. The notes as printed are in part exactly opposed to my real views. I am strongly in favor of Dr. Gatch's method of administering nitrous oxid, instead of being opposed to it. In my remarks on Dr. Gatch's use of the principle of rebreathing, I aimed to emphasize the importance of the practice. I pointed out that Nature herself, by the very structure of the human body, causes us to breathe, through a tube, namely, the trachea, pharynx, nose and mouth, and that thus we normally rebreathe to the extent of about 30 per cent. Rebreathing from a bag, as practiced by Dr. Gatch, or through a tube, is a simple, entirely rational and effective method of combating the hyperpnea of pain and of the stage of excitement during anesthesia.

YANDELL HENDERSON, New Haven, Conn.

Benzoate of Soda Again

To the Editor:—An editorial entitled "Benzoate of Soda Again," in THE JOURNAL, Nov. 4, 1911, contains certain features so manifestly unfair and misleading that anyone who respects truth must be impelled to utter a word of emphatic protest. The question as to the permissibility of the use of preservatives in general, or of any preservative in particular, may obviously involve more than the physiologic effects of the substance under discussion. Thus a preservative might be found to be physiologically harmless, and yet its use be contrary to public policy. It may fairly be debated whether the employment of a substance which will conceal inferiority or uncleanliness should be allowed in any event. In the case of saccharin, its exclusion has been suggested for the most part on other than purely physiologic grounds. In your editorial similar general or practical considerations in relation to sodium benzoate are discussed.

The physiologic action of a substance, on the other hand, is something which can be ascertained by experimental investigation. It is to this phase of the preservative question that the Referee Board appointed by President Roosevelt primarily directed its attention with an intelligent appreciation of what scientific research involves. In referring to this aspect of the matter in the editorial under discussion the following paragraph is introduced:

"And now comes from Berlin the 'Expert Opinion of the Royal Scientific Deputation for Medical Affairs Regarding the Use of Benzoic Acid and Its Salts for the Preservation of Food.' These experts were requested by the Minister of Education and Medical Affairs in Germany to give their opinion on this subject. In their report, they first describe the chemical and physiologic action of these drugs and then briefly summarize the findings of various scientists on the question at issue. Of the decision of the United States Referee Board, these German scientists say:

> "'The series of experiments in this connection made by the American scientists are of too short duration and the results coupled with certain limitations, so that they cannot be regarded as demonstrating the unconditional non-injurious nature.'"

This apparent impeachment of the conclusions of a most representative group of American scientists and of the results of a series of physiologic researches that will stand for some time as types of thorough investigation, must have awakened some confusion and not a little surprise in the minds of the thousands of readers who are not familiar with the results of science at first hand, but learn the merits of modern research from the columns of THE JOURNAL. One who has personally studied the report of the United States Referee Board will find it hard to believe that two German scientists like Professors Heffter and Abel (who comprised the "Royal Scientific Deputation" mentioned in the editorial) should, without further experimental evidence, find occasion to contradict the guarded conclusions in the United States Referee Board's Report. A reference to the German "expert opinion" (*Gut-*

achten) shows on the contrary that instead of impugning the conclusions of the United States Referee Board the German Commission has actually accepted them in every detail. Let me quote their opinion verbatim:

"Zusammenfassend darf man wohl sagen, dass die Benzoesäure und das benzoesaure Natrium erst in verhältnismässig hohen Gaben eine Giftwirkung auf den Organismus entfalten. Aus dem regelmässigen Vorkommen der Hippursäure, des Paarungsproduktes der Benzoesäure, im menschlichen Harn ist zu schliessen, dass kleine Mengen benzoesaurer Salze, die aus der pflanzlichen Nahrung stammen oder aus Bestandteilen dieser Nahrung durch Oxydation entstehen, im Blute kreisen. Man darf hieraus sowie aus den Versuchen der amerikanischen Kommission wohl den Schluss ziehen, dass Mengen bis zu etwa 0,5 g. Benzoesäure in kleinen Mengen tagsüber genossen, für den menschlichen Körper als harmlos zu bezeichnen sind. Ob grössere Gaben (Mengen von mehreren Grammen) auf die Dauer von allen Menschen ebenso folgenlos ertragen werden, ist mit Sicherheit vorläufig nicht zu beantworten. Die in dieser Beziehung vorliegenden Versuchsreihen der amerikanischen Gelehrten sind von zu kurzer Ausdehnung und die Ergebnisse mit gewissen Einschränkungen versehen, so dass sie als beweisend für die unbedingte Unschädlichkeit nicht angesehen werden können."

"Die Wirkungslosigkeit kleiner Dosen Benzoesäure beruht offenbar darauf, dass sie durch die Verwandlung in Hippursäure entgiftet wird. Das Entgiftungsvermögen des menschlichen Organismus beruht auf seinem Glykokollvorrat, und er ist anscheinend imstande, wie aus den angeführten Beobachtungen hervorgeht, ziemlich erhebliche einmalig gereichte Benzoesäuremengen zu entgiften, d.h. zu paaren. Ob dieses Schutzvermögen auch bei der bestimmten Zufuhr grösserer Benzoesäuremengen sich ausreichend erweisen würde und ob vor allen Dingen auch Personen mit beschwächten Körper oder bei geringer Eiweisszufuhr dazu imstande wären, ist nicht erwiesen." (From Vierteljahrsschrift für gerichtliche Medizin und öffentliches Sanitätswesen, Dritte Folge, XLI Band, 2 Heft; Jahrgang 1911, Heft 2 (April, 1911), pp. 330-336.)

Translation.—"In review it may be stated that benzoic acid and sodium benzoate exert a toxic action only in comparatively large doses. From the regular occurrence of hippuric acid, the product of conjugation with benzoic acid, in the human urine, one must conclude that small quantities of benzoate derived from vegetable foods or by oxidation of constituents of such foods circulate in the blood. *From this, as well as from the experiments of the American commission, the conclusion can be drawn that quantities of benzoic acid approximating 0.5 g. consumed in small portions throughout the day, are to be designated as harmless for the human body.* Whether *larger quantities* (portions of *several grams*) can likewise be tolerated without effect continuously by all persons cannot at present be answered with certainty. The series of experiments in this connection made by the American scientists are of too short duration and the results coupled with certain limitations, so that they cannot be regarded as demonstrating the unconditional non-injurious nature.

"The inertness of small doses of benzoic acid obviously depends on detoxication by conversion into hippuric acid. The capacity of the human organism to detoxicate depends on its glycocoll reserve, which apparently is capable, as demonstrated by the quoted experiments, of rendering non-toxic, i. e., conjugating with very considerable quantities of benzoic acid administered once. Whether this protective capacity would suffice when the larger quantities of benzoic acid continue to be introduced and whether above all individuals with weakened bodies or low protein intake would be capable thereof, has not been demonstrated." (The italics are mine.)

The sentence in the German report in reference to the fact that the harmlessness of benzoate cannot be regarded as conclusively demonstrated, owing to the short duration of the trials, etc., clearly refers to large doses (quantities of several grams) and is in no way in conflict with the published conclusions of the Referee Board. In THE JOURNAL'S editorial, however, this sentence has been adroitly detached from its context and made to apply to "the decision of the United States Referee Board," without further specific restriction. The suppression of truth cannot readily be defended, though it does at times occur in the ardent defense of some worthy cause; but the distortion of facts always calls for condemnation from everyone who stands for honesty in science. In this respect it seems as if the editorial in question had employed the very methods of attack which THE JOURNAL has so often (and properly) condemned in the patent-medicine faker and the antivivisection propagandist.

The injustice done to the report of the Referee Board and the incompetence thereby indirectly charged to its authors by the promulgation of this perverted review of the German *Gutachten* extends beyond the subscription list of THE JOURNAL. The editorial has been copied in the columns of *Science* (Nov. 10, 1911, p. 638), without apparent verification, criticism, or correction; and owing to the enormous prestige of both of these journals the misleading statement will doubtless receive further widespread repetition by periodicals and individuals who rely on the two American journals which are assumed to represent the highest ideals of science. It is unfortunate that the enthusiasm for any propaganda should render its supporters unable to differentiate the value of the reform proposed and the validity of the evidence collected in relation thereto. A frank admission of truth ought not to injure any worthy cause.

LAFAYETTE B. MENDEL, New Haven, Conn.

[COMMENT.—The points raised in this letter were discussed editorially in THE JOURNAL, Nov. 25, 1911.—EDITOR.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

AN INCOMPATIBLE PRESCRIPTION

To the Editor:—The following is a prescription that I saw recently. I am curious to know what will be the result of this mixture.

The prescription is as follows:

℞

Potas. Iodid	℥ss
Acid. Nitric. Dil.	℥iii
Tr. Belladonnæ	℥ss
Ac. Salicylic.	℥ss
Aq. Camph. q. s.	℥iii

Sig.: Two teaspoonfuls three times a day in water.

H. W.

ANSWER.—Theoretically, the result of making a mixture according to the above prescription would be that the nitric acid would liberate some iodin from the potassium iodid and that this iodin would react with the alkaloids in the tincture of belladonna with the formation of an insoluble periodid. Further, the amount of salicylic acid is such that most of it would be insoluble in the liquid present.

A practical trial confirms this. When the potassium iodid is dissolved in water and the nitric acid added, some free iodin appears and, on the addition of the tincture of belladonna, the solution becomes turbid. In the finished prescription a large proportion of the salicylic acid remains undissolved.

THE LAST NOBEL PRIZE

To the Editor:—Recently a local newspaper stated that a Swedish scientist had received the Nobel prize for his researches in dietetics. Please inform me in regard to the nature of this work which merited such a prize. OTTO V. HUFFMAN, M.D., Cincinnati.

ANSWER.—As THE JOURNAL stated recently (November 25, p. 1774) the Nobel prize in medicine for this year has been awarded to Dr. Gullstrand, professor of ophthalmology at the University of Upsala, Sweden, for his research on dioptrics, that part of optics which treats of refraction. The proofreader on "the local newspaper" was thinking evidently more of his Thanksgiving turkey than of his "copy" when he made "dioptries" read "dietetics."

THE ACNE BACILLUS

To the Editor:—Please describe the acne bacillus and give me the method of growing it. G. A., Harrisburg, Pa.

ANSWER.—The *Bacillus acne* is a short, thick, slightly curved bacillus which often becomes longer and thicker in cultures, and in old cultures develops branching forms. The organism is slightly motile, non-capsulated and stains by Gram's method. It grows on practically all media; on agar as a pure white pultaceous mass, elevated, moist, smooth and glossy. It is pathogenic for mice and guinea-pigs, and is agglutinated by the patient's serum in dilutions up to 1:100.

REMOVAL OF TATTOOING

To the Editor:—Please describe the best method of removing a tattooed design on the skin of the hand. Kindly mention references. H. M. L.

ANSWER.—This query was answered in THE JOURNAL, July 22, 1911, p. 310. The various methods are described in the standard works on dermatology.

BRASS POISONING

To the Editor:—Is there such a disease as brass poisoning among brass polishers? What are its symptoms and in what part of the body does it show its effects? Is there any literature on the subject?
W. B. CLARK, Butler, Pa.

ANSWER.—It is, of course, brass founders, not brass polishers, who usually suffer from brass poisoning, because the volatilized zinc is the substance responsible for the poisoning. The form of poisoning from which brass polishers suffer is apt to be lead poisoning, for all brass contains more or less lead. The only American literature we find on the subject is Dr. Hayhurst's chapter on brass poisoning in the report of the Committee on Occupational Diseases in Illinois, January, 1911. This can be had by applying to the chief factory inspector, Edgar Davies, Security Building, Chicago.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Dec. 9, 1911.

King, Edgar, captain, December 1, granted leave of absence for one month and fifteen days.

McAlister, John A., Jr., dental surgeon, December 1, relieved from duty at Fort Leavenworth, Kan., and ordered to Jefferson Barracks, Mo., for duty.

Voorhies, Hugh G., dental surgeon, December 1, relieved from duty at Jefferson Barracks, Mo., and ordered to Fort Leavenworth, Kan.

Ashford, Mahlon, captain, December 1, leave of absence extended one month.

Enders, William J., M.R.C., December 1, relieved from duty in the Philippines division and on arrival at San Francisco to report to the adjutant general of the Army for further orders.

Maynard, E. B., M.R.C., December 4, orders directing him to proceed to the Philippine Islands on Jan. 5, 1912, is amended to read "April 5, 1912," instead.

Stephenson, William, lieut. col., December 4, will proceed to several points, eastern division, to make an inspection of the medical department and the sanitary condition of troops and stations.

By par. 4, S. O. 281, W. D., Dec. 1, 1911, each of the following named officers of the Medical Corps will report on March 4, 1912, to Lieut. Col. Charles M. Gandy, Medical Corps, president of the examining board at Manila, P. I., for examination to determine his fitness for promotion, and on completion of the examination will return to his proper station: First Lieuts. Henry C. Cobury, Jr., Charles E. Doerr, Daniel P. Card, Ralph H. Goldthwaite, James C. Magee, Corydon G. Snow, Norman L. McDarmid, Leon C. Garcia, George D. Heath, Jr.

Stone, Frank P., dental surgeon, December 1, reported for temporary duty at Jackson Barracks, La.

Thomason, Henry D., captain, December 2, ordered to proceed to Pittsburgh to attend meeting of the Association of National Guard Officers of Pennsylvania, Dec. 8 and 9, 1911.

Murray, Wilson, M.R.C., December 8, orders to the Philippine Islands, July 5, 1912, revoked. Relieved from duty at Fort William H. Harrison, Mont., and will proceed to his home and will stand relieved from active service in the Medical Reserve Corps at expiration of two months' leave of absence granted him this date.

By par. 2, S. O. 286, W. D., Dec. 7, 1911, the following named officers of the Medical Corps are detailed to take the correspondence course in the Army Field Service and Correspondence School for Medical Officers, Fort Leavenworth, Kan.: Majors Charles Lynch, James M. Kennedy, Deane C. Howard, William H. Wilson, William F. Lewis, Thomas J. Kirkpatrick, Irving W. Rand, Powell C. Fauntleroy, James S. Wilson, Basil H. Dutcher, Leigh A. Fuller, George A. Skinner, Carl R. Darnall, Henry Page, Henry A. Webber, Jere B. Clayton, Edward R. Schreiner, Frederick M. Hartsock, Douglas F. Duval, Charles J. Manly, David Baker, James R. Church, Elmer A. Dean, Francis M. C. Usher, Willard F. Truby, Henry S. Greenleaf, Louis T. Hess, Christopher C. Collins, Benjamin J. Edger, Jr., George M. Ekwurzel.

Enders, William J., M.R.C., December 6, on arrival at San Francisco from the Philippine Islands to proceed to his home. Lieutenant Enders is relieved from active duty in the Medical Reserve Corps on expiration of the leave of absence granted him this date for one month and twelve days.

Schmitter, Ferdinand, captain, December 6, relieved from duty at Fort Slocum, N. Y., and at expiration of leave of absence granted him this date, for two months, will proceed to Fort Clark, Tex., for duty.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

KENTUCKY: The Armory, Louisville, December 19-21. Sec., Dr. J. N. McCormack, Bowling Green.

VIRGINIA: Lynchburg, December 19-22. Sec., Dr. R. S. Martin, Stuart.

An Efficient Public Official

An efficient public official is one who is always on the firing line and naturally receives the complaints, the annoyances and abuse of disappointed seekers after special privilege. In fact, the more efficient the work of the official the greater are the difficulties of his position. Too often, however, such an official is compelled to work under the additional handicap of being misunderstood by his friends and being criticized by the very ones whose interests he is striving to protect. These statements are particularly true regarding the position of a health officer or an efficient secretary of a state medical licensing board. Some of the difficulties of the latter position are given in the following extract from a statement issued by a special committee of the Colorado State Board of Medical Examiners, on the retirement of Dr. S. D. Van Meter who has ably served as its secretary for the last ten years:

"To him [Dr. Van Meter] is largely due the credit of framing our present efficient medical statute, and practically to him alone the state is indebted for its thorough and impartial enforcement. . . . Work in the numerous legislatures, irksome and humiliating at times, nevertheless necessary so that the members might have a proper conception of adequate medical licensure, he has performed with a high sense of duty. Let no one think his way has been along paths of peace or his seat a downy pillow. Harassed on every hand, persecuted by the innumerable charlatans to whom he was a thorn in the flesh, made defendant along with the other members of the board in a suit for malicious prosecutions, attempts at bribery (mute evidence of which is found in our records to-day), in countless other ways he was made the target for conscienceless abuse. Curiously enough the same state society which should have taken special pride and delight in easing his way has been, if not actively hostile (as one of the constituent societies showed itself to be) at least unsympathetic and negligent at times when its help and encouragement would have counted for much."

The difficulties in the Colorado situation and elsewhere are further shown in Dr. Van Meter's reply to the committee's statement:

"The absolute fairness of the present plan of medical licensure in this state, more than any other factor, has been responsible for the prevention of multiple boards and laws that have proven so demoralizing in many other states. This bulwark will not stand out unassisted forever against the well-engineered campaigns of the organized and combined forces that are using the foulest of means to destroy all statutory restrictions tending to protect the public health and elevate the medical profession. The venal press, the patent medicine interests, and that large conglomerate army of pseudophysicians constitute an opposition of great proportions; and when we have the unfortunate condemnatory public feeling engendered by the shortcomings and misdeeds of members within our ranks added, it behooves those interested in public health legislation to ponder and thoughtfully consider ways and means to thwart this army of mercenaries in their efforts to remove what little protection to the public health our existing statute affords.

"It is disheartening to note the apathy of the majority of the medical profession in this work, but can we blame them? The insults meted out to the individual who attempts to aid in medical legislative work are more than enough to extinguish the ambition of the most enthusiastic. It is not strange, therefore, that in every community we find only a few members of the profession who are willing to make the sacrifices the work necessarily demands.

"I am sometimes almost persuaded that it would be better to repeal every statute regulating the practice of medicine and prove to the people conclusively that those laws are of no pecuniary benefit to the medical profession. I believe that it would in a very short time result in the enactment of medical laws shorn of the compromise provisions common to medical statutes in general. Such a radical change of base, however, would be so revolutionary it might bring unexpected evils, and therefore it is better to be satisfied to accomplish little by little, trusting in time to make the legal right to practice medicine in this and every other state mean qualification, both educational and moral."

Clearly, what this country most needs at the present time is more *men* rather than more law. Far more important than a well-worded law is a thoroughly efficient officer to enforce it. Flaws in a practice act will usually be corrected by an able officer but without him the best possible law is of no effect. Give us a larger number of more efficient men on our boards of medical examiners.

V. 5
1911

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

EDITORIAL VIEWS ON A NATIONAL DEPARTMENT OF HEALTH

One of the most striking results of the campaign for a national department of health is the increased amount of space given to the discussion of health topics by the leading newspapers. With few exceptions, the newspaper editors are not led astray by the sophistry and misrepresentation of the opponents of the measure. The views expressed by the newspapers are of interest and value, but space permits the quotation of only a few to indicate the general trend. The Milwaukee *Free Press* says:

"There is good reason to believe that the present congress will pass the Owen measure or one like it, since the opposition, well organized, financed and persistent as it is, has overreached itself in its extravagant alarums.

"The claim that a federal health department would and could establish state medicine and drive all save one class of practitioners from the country—which is the chief bogey of the opposition—has become a joke with every citizen who has taken time to look the question fairly in the face. . . . While the federal government is wholly within its jurisdiction when it lays down medical and sanitary regulations for the Canal Zone and other federal territory, it cannot do so for the individual states. There is no interstate commerce law with regard to disease, and not even the most extreme Rooseveltian "nationalist" would dare to think of forcing federal health laws or laws with regard to medical practice on the sovereign commonwealths. The activity of a national department of health would be very largely one of study, research and experiment, such as that of the government's scattered health agencies to-day. Only with all these agencies coordinated, brought under one head and properly financed, their work would be immeasurably more comprehensive and effective."

IT'S THE SAME OLD GANG

The Waterloo (Iowa) *Courier*, after discussing the action of the Trans-Mississippi Commercial Congress in indorsing the Owen bill, says:

"There is a great deal of bitter opposition to the institution of a department of health, but thus far the opponents seem to have failed in presenting specific objections to the plan. Charges are made that a health department would turn the people of the United States over to a medical trust and that the rights guaranteed American citizens by the constitution would be taken away. The only assurance needed to calm such fears, it seems to us, is that there can be no abridgment of constitutional rights until the constitution is annulled or until it is amended so as to withdraw the personal liberties which the people now enjoy. As to the domination of a trust, the American people would be very weak and silly if they would stand for anything of that kind, health department or not. The ministrations of this department could not be made compulsory in individual cases and would be offered merely to take or leave. Only quarantines between states, such as are now employed to prevent the spread of animal diseases, could be enforced and it is perfectly proper, sane and humane that they should be."

The Cedar Rapids (Iowa) *Republic*, after enumerating the objections raised to a department of health, continues:

"One is inclined to believe that too much is made out of these ideas. The doctors who have favored the creation of a national department of health probably have no such ideas; they are, in all probabilities, as much interested in the welfare of their fellow men as are those who are crying against them. It is impossible to proceed on the supposition that they want to enslave their fellow men in this country, or propagate diseases through suggestions or through fears in order that they may be employed to cure them."

The Wilkes-Barre (Pa.) *Record*, after discussing the charge that the American Medical Association is attempting to form a "trust" says:

"There is every reason to believe that the Association's activity is based on nothing more or less than the desire to reduce the enormous misery and expense of needless disease and death. If the other schools of medicine and recognized curative agencies were to cooperate in the movement to create a federal bureau of health, instead of doing their utmost to defeat it, they would gain more in the way of recognition and prestige. To defeat a movement promising so much of benefit to the people on the vague theory that it would be engineered by a medical trust would be nothing short of a calamity."

One of the best of recent editorial discussions appeared in the Kansas City (Mo.) *Star*. Under the title of "Scarecrows of Democracy" the *Star* says:

"A democracy ought not to be afraid. Yet right now it is fear of the people by the people which prevents the establishment of a national bureau of health. Indifference and ignorance there are. Mysticism and self-satisfaction there are. And indisputably selfish interests, such as fought pure food legislation and tried to oust Dr. Wiley, fight behind a virtuous mask against sane and effective measures of sanitation and

cure. Yet many persons who are sincerely in the forefront of the battle for a social square deal are obsessed by the fear that a national board of health or a national bureau of health will be an autocracy of doctors or some other kind of autocracy.

"Strangely enough, these who are thus frightened do not see ghosts when they consider the army of experts who save hogs from cholera and cattle from Texas fever. They do not fear an autocracy of veterinary surgeons; nor do they regard the tree doctors and the cereal physicians as an oligarchy of San Jose scale fighters or a despotism of chinch-bug eradicators. It is only when the proposition is that democracy shall be efficient in saving human life that really sincere people get cold sweats of apprehension.

"Even though an autocracy of doctors were contemplated—which it is not—even so, every man now puts his own life and that of his wife and children in the hands of a physician—an autocrat of life and death. But the *Star* may repeat in this connection what it has often said: The medical profession is really scientific and socially serviceable in its prevailing ideal of rooting out from men and the habitations of men the afflictions which now give the medical practitioners most of their living."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

Fourth Month—Third Weekly Meeting

PNEUMONIA

CROUPOUS PNEUMONIA[1]

ETIOLOGY: Influence of age, occupation, habits, previous diseases, climate and season. Specific microorganisms[2] and causal relations. Found in what other regions of body? Morphology and methods of culture.

SYMPTOMS: Clinical course of typical lobar pneumonia, ending in recovery. Symptoms of (a) respiratory system, with physical signs, (b) circulatory system, (c) nervous system.

TREATMENT: Medicinal, serum treatment.[3] Symptomatic treatment. Venesection. Fresh-air treatment.[4]

CATARRHAL PNEUMONIA

PATHOLOGIC ANATOMY: Characteristic changes, gross and microscopic, in lung. Wherein do they differ from croupous pneumonia? Difference in distribution of consolidated areas. Organisms found in catarrhal pneumonia.

SYMPTOMS: After an infectious disease what would lead to diagnosis of catarrhal pneumonia? Usual physical signs. Difference in onset and symptoms between catarrhal and croupous pneumonia.
Differentiate physical signs.

PROPHYLAXIS

TREATMENT:[5] Indications: cough, pain, cardiac depression, cerebral symptoms.

Book Notices

THEORY AND PRACTICE OF THYROID THERAPY. A Book for General Practitioners. By Herbert Ewan Waller, M.R.C.S. England, L.R.C.P. London, Honorary Anesthetist Birmingham Dental Hospital. Cloth. Price, $2 net. Pp. 154. New York: William Wood & Co., 1911.

The author endeavors to collect and review the scattered literature on thyroid. He places the symptoms and results of thyroid insufficiency and connects the deficient secretion of the thyroid with a number of diseased conditions, the relation of which is certainly not well known to the medical profession in general. His first chapter deals with the relation of thyroid deficiency to rickets and dental caries. In the second chapter he investigates the causes for the increasing prevalence of these diseases depending on thyroid insufficiency. These he sums up in three categories: (1) spread of measles and other "minor" infectious complaints through increased educational movements; (2) loss of calcium salts in food and water, operating partly *per se*, but chiefly by adverse influence on thyroid activity; (3) decrease of thyroid activity due to loss of function entailed by evasion of maternity or lactation, or both.

He regards the thyroid as a valuable ingredient of mother's milk, which is designed to assist in calcium metabolism and growth of the infant, whose own thyroid is still insufficiently developed. The artificial feeding of infants becomes, therefore, a source of rickets, even though the food contains a sufficiency of calcium, because the function of the thyroid being insufficiently developed, calcium is not assimilated. He also connects fat with the metabolism of calcium and regards a distinct craving for fat as evidence of thyroid insufficiency, whereas an aversion for this element of diet is probably an indication of excessive thyroid activity. The relations of calcium and of iodin to the thyroid are discussed, as well as the view that enlargement of the thymus and of the lymphatic glands and adenoids is an indication of an attempt to compensate for deficient thyroid activity by the increased action of these glands. Waller advocates the theory that the salicylates stimulate the activity of the thyroid in small doses but depress it in large doses.

The book affords many suggestions and hints as to the treatment of conditions which probably may be due to minor variations in thyroid activity, although not presenting the characteristic signs of any recognized disease. Undoubtedly many of the conclusions must be regarded as merely speculative and a decision in regard to them should await further investigation. Meanwhile, the views of the author as to practical thyroid therapy are worthy of consideration, and as in these somewhat obscure conditions he recommends the use of small doses, at least in the beginning, little harm can result from a cautious trial of this remedy in the conditions in which he believes it to be useful.

COMPENDIUM OF REGIONAL DIAGNOSIS IN AFFECTIONS OF THE BRAIN AND SPINAL CORD. A Concise Introduction to the Principles of Clinical Localization in Diseases and Injuries of the Central Nervous System. By Robert Bing, Privat-Docent for Neurology in the University of Basel. Translated by F. S. Arnold, B.A., M.B., B.Ch. (Oxon). Revised by David I. Wolfstein. Cloth. Price, $2.50. Pp. 215, with 70 illustrations. New York: Rebman Company, 1911.

The aim of a neurologic diagnosis is not only to state the character of a certain lesion, but also to point out where it might be found—in other words, to make a focal diagnosis. This cannot be well done without a working knowledge of the anatomy and physiology of the nervous system. It is for this reason that physicians have always considered neurology abstruse and not worthy their attention. The fact is that neurologic diagnosis not only is not so difficult as that of other branches of medicine, but it also has better foundations, namely, anatomy and physiology. The author has endeavored to facilitate neurologic diagnosis by bringing together in one compact volume the important facts in the applied anatomy and physiology of the central nervous system having a bearing on localization—the most difficult part of the diagnosis. In our opinion he has not only succeeded in this task, but he has accomplished more—he has aroused his reader's curiosity to seek additional light on the subject in more voluminous works. This little book, though somewhat didactic in its tone, constitutes a valuable addition to neurologic literature. The student particularly, but also the physician, will find it a reliable guide. The translation is especially good.

THE PRACTITIONER'S VISITING-LIST, 1912. Thirty Patients Per Week. Leather. Price, $1.25. Pp. 192. Philadelphia: Lea & Febiger, 1911.

The text portion of this visiting-list for 1912 has been thoroughly revised and brought up to date. It contains the usual tables of measures and much other valuable information. The record portion contains ruled blanks of various kinds, adapted for noting all details of practice and professional business. It is printed on a good quality of paper and is bound in leather.

1. Fulton: THE JOURNAL A. M. A., 1905, xliv, p. 102. Ashton and Landis: Am. Jour. Med. Sc., January, 1905.
2. Rosenow: Trans. Chicago Path. Soc., 1903, 265. Rosenow: THE JOURNAL A. M. A., 1905, xliv, p. 871.
3. Anders: THE JOURNAL A. M. A., Dec. 10, 1904.
4. Norris: Am. Jour. Med. Sc., 1908, cxxxvi, 645. Thomuson: Am. Jour. Med. Sc., 1908, cxxxv, 13. Anders: Med. Rec., July 7, 1906.
5. Kerley: Phila. Med. Jour., May 16, 1903.

V. 5
1911

WHAT SHALL I EAT? A Manual of Rational Feeding. By F. X. Gouraud, Formerly Chief of the Laboratory of the Medical Faculty of Paris. With a Preface by Prof. Armand Gautier, of Paris. Only Authorized Translation into the English Language by Francis J. Rebman. With a Glossary Containing Definitions of the Principal Technical Terms, and an Index of Diseases Referred to in the Text. Cloth. Price, $1.50. Pp. 379. New York: Rebman Co., (1911).

The arrangement of the subject-matter of this book is convenient and rational. Taking up various articles of food the author describes briefly their respective actions on the organs of secretion, assimilation and elimination. He recommends the use or rejection of various foodstuffs and, when discussing debatable questions such as the use of alcohol, white bread, etc., gives the arguments pro and con and leaves the reader to draw his own conclusions. The general tone of the book is sane and conservative. Of the original, the translator says that "the style is facile, succinct and readable." If this is so, much has been lost in the translation, which is characterized by verbosity and obscurity. For example, in giving the author's conclusions regarding meat as a food, we read that " . . . the extravagant content of nitrogen forms the germination of microbes." Probably what the author really said was that the large nitrogen-content (of meat) favors bacterial growth.

Elsewhere the translator makes the author say: "Gastric stimulation, uplift of tension, increase in humoral acidity, are all of the utmost benefit in cases of weak tension and of hypo-acidity of delicate stomachs."! Exactly what this means, not even the most careful study of the context makes plain. Before a second edition of the book is issued, it should be gone over with a freer hand, a more liberal translation made and much that is now obscure and involved changed into good idiomatic English. On the whole, however, the book is a useful and valuable one.

CHEMICAL AND MICROSCOPICAL DIAGNOSIS. By Francis Carter Wood, M.D., Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York. Third Edition. Cloth. Price, $5 net. Pp. 791, with 194 illustrations. New York: D. Appleton & Co., 1911.

The third edition of this work differs from the second by such changes as seem necessary, only those procedures having some extended usage being introduced. The Wassermann reaction is more fully explained and sulphemoglobinemia is discussed for the first time. A full account of the use of alkaline hypochlorid solutions in sputum examination (the antiformin method) is given and a number of the recently devised methods for determining the functional activity of the gastro-intestinal tract are introduced. An especially commendable feature of the book is the chapter on parasites, which is unusually complete and will be welcomed by many who have had difficulty in finding desired information on this subject. The book is handsomely illustrated and well deserves a continuation of the favor with which it has been received.

THE PARASITIC AMEBAS OF MAN. By Charles F. Craig, M.D., Captain, Medical Corps United States Army. From the Bacteriologic Laboratory of the Army Medical School, Washington, D. C., and the Rockefeller Institute for Medical Research, New York. Published with the Authority of the Surgeon-General of the United States Army. Cloth. Price, $2.50. Pp. 253. Philadelphia: J. B. Lippincott Co., 1911.

This monograph is devoted to a description of the various species of amebas which have been described as parasitic to man, and will be of interest to those engaged in parasitology. The morphology, life-cycle, methods of differentiation and relations to disease of these parasites are taken up seriatim. Much space is given to the amebas of the intestinal tract, on which the author is regarded as an authority. The mechanical features of the book are excellent, and the illustrations add greatly to the verbal description.

THE MEDICAL RECORD VISITING LIST OR PHYSICIANS' DIARY FOR 1912. Leather. Price, $1.50. New York: William Wood & Co., 1911.

This revised edition, tastefully bound, and of convenient size will be welcomed by many physicians, who in other years have chosen this particular visiting list. It contains the usual dose list, tables of weights and measures and some well-chosen miscellaneous matter, useful in emergencies.

Medicolegal

Powers of Boards of Health as to Milk-Supplies—Communicability of Bovine Tuberculosis—Diagnosing of Diseases —Use of Tuberculin Test—Constitutionality of Health Measures

(Borden's Condensed Milk Co. vs. Board of Health of Town of Montclair (N. J.), 80 Atl. R., 30)

The Supreme Court of New Jersey holds that boards of health are empowered by the statutes of that state to prohibit the sale of milk from diseased cows. Whether cows from which a municipality is supplied with milk are diseased is a question that may in the first instance be determined by the local board of health. Since no other tribunal is provided, the natural inference is that this question should in the first instance be determined by the board, which is the body called on to act.

The court says that scientific men who have made a study of the subject are not agreed as to the probability of the communication of tuberculosis from cattle to man by means of milk and the seriousness of the danger. It seems to be established that there is very little chance of communication of bovine tuberculosis to human beings above the age of 16 years, but that there is very serious danger of communication through the medium of milk to human beings under 16 years of age, and especially to children under five years of age. It was conceded that there are such cases. The concession that bovine tuberculosis may be communicated to young children, and that, although it appears in them in the less common forms rather than in the forms of pulmonary tuberculosis, suffices to justify action to guard against the contagion. It is for the board of health to decide how many lives must be endangered, and whether the lives of a few infants or children are worth the effort and the financial loss. To suggest these considerations is to answer them. If the life of one child is endangered, extreme prudence may be proper.

In determining whether cows from which a muncipality is supplied with milk are diseased, the method of diagnosis adopted by the local board of health should be one that is well recognized, thoroughly approved, and as reliable as any. The existence of disease is necessarily to some extent a matter of opinion or inference from established facts. The most skilful veterinarian may err. The most reliable symptoms may be deceptive, and absolute accuracy in diagnosis cannot be looked for. To demand it is a counsel of perfection not adapted to the exigencies of everyday life. Perfection of that degree is not attained under the diagnosis of human diseases where the physician has the advantage of a patient able to state subjective symptoms and give a history of the complaint. All that can be fairly required in the determination of the fact of disease is that the method of diagnosis should be well recognized, thoroughly approved, and as reliable as any.

The court finds that the tuberculin test is the most reliable method of diagnosis of tuberculosis in cattle now known; that, while it is not perfect, the percentage of error is as small as in any method suggested; and that it is more accurate than the method by physical examination. The court rests this conclusion not merely on the testimony in the case, but on the fact that it has been approved by judicial decision in Minnesota, Louisiana, Wisconsin and Pennsylvania, and adopted by the most recent statute in Delaware, Indiana, Maryland, Michigan, Minnesota, New Mexico, North Dakota, Oregon, Pennsylvania, South Carolina, Tennessee, Washington and Wisconsin, and for some purposes by Maine, Massachusetts and Vermont. The "tuberculean test" referred to in the act of South Dakota is probably the same. A similar act was passed by the New Jersey legislature in 1899. These statutes are legislative testimony of cumulative force to the value of the tuberculin test as a diagnostic agent. The court thinks therefore that the board of health is justified in the position that cattle which react to the tuberculin test are diseased. That conclusion may occasionally be erroneous, but it is as nearly accurate as is possible

The court is not impressed by the suggestions that healthy cows may, and diseased cows may not, react to the tuberculin test; that many cows react that have had tuberculosis and recovered; that many that now have tuberculosis are likely to recover; and that it is possible for the producer of milk to destroy the value of the test by trick. These arguments would be of more importance if the board of health were undertaking to condemn to death all cattle that react. This they are not doing. If the cattle are likely to recover, the owner may keep them until they do, and may use their product for any proper purpose. His loss is similar in kind, although perhaps greater in degree, than the loss of milk at the time of parturition. The fact that the value of the test may be destroyed by the trick of the owner of the cow only shows that the method is not perfect; few methods could be beyond the reach of possible deception.

It is also beside the point to suggest that, if this test were applied to human beings, 80 per cent. of mankind must be condemned as diseased. In dealing with human beings a different rule is followed from that which is applied in dealing with cattle, because men make the rule. The test might be applicable to human beings if it were proposed to use the produce of their bodies as food for others. A wet-nurse might properly be subjected to a more stringent examination.

Wherefore, it is decided that a local board of health may prohibit the sale within the municipality of milk from cows that react to the "tuberculin test."

The action of a local board in adopting measures for the protection of public health will not be set aside by the court if the board has acted reasonably on evidence that might satisfy a reasonable man. Regulations for the protection of the public health are within the police power of the state, and are not an illegal interference with interstate commerce, if they have a real substantial relation to a public object which government can accomplish, and are not arbitrary and unreasonable and beyond the necessities of the case.

Society Proceedings

COMING MEETINGS

American Association of Anatomists, Princeton, N. J., Dec. 27-29.
American Physiological Society, Baltimore, Dec. 27-30.
Western Surg. and Gynecol. Assn., Kansas City, Mo., Dec. 18-19.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting Held Nov. 1, 1911

The President, Dr. George E. deSchweinitz, in the Chair

Movable Cecum

Dr. Joseph Sailer: Movable cecum is a condition in which, from an anomaly in the attachment of the mesocolon and the absence of the attachment of the colon to the wall of the abdomen, the cecum becomes abnormally movable. As a result, various forms of obstruction occur which ultimately give rise to atony of the cecal wall and therefore the name typhlatonia. The symptoms are pain in the right lower quadrant, of a colicky character, and constipation occasionally alternating with diarrhea. The physical signs are a palpable cecum in which, as a rule, gurgling can be obtained, and tenderness usually localized over McBurney's point. The great majority of cases are diagnosed as chronic appendicitis, but if the appendix is removed, there is no improvement in the symptoms. Studies made by various clinicians and surgeons indicate that the condition is not uncommon, and that the cecum is probably abnormally movable in 10 per cent. of all these cases. Not all cases, however, give rise to clinical symptoms.

DISCUSSION

Dr. George E. Pfahler: The first examination of the patient by the Roentgen rays for this condition should be made in the erect posture; the second, in the Trendelenburg position. This throws the viscera into two different directions permitting free movement of the cecum. In looking for adhesions about the appendix I have made the examination in this way, and have recognized the condition described by Dr. Sailer, in several cases. I believe that the condition is more frequent than is supposed.

Dr. Alfred Stengel: One feature of the question of movable cecum that has impressed me a good deal is the difficulty of distinguishing between this condition and movable kidney. I have seen a number of cases in which the caput coli could easily be palpated by "gliding palpation," or by moving the palpating hand horizontally over the surface and gradually making more pressure. In this manner the whole caput coli may sometimes be displaced in the direction of a movable kidney. The only distinguishing feature that I know of is that in the case of a movable kidney it is possible to get the palpating hand above the upper pole of the kidney; whereas, in movable cecum this is impossible. In view of the fact that, anatomically speaking, the cecum is always movable, it is evident that a definition of movable cecum cannot be made absolutely. As with movable kidney, should we undertake surgical treatment in every case recognized in our clinical examinations, many patients would be treated unnecessarily for movable cecum.

Dr. Joseph Sailer: The clinical importance of this condition will, I think, be as an indication for further operative procedures in cases of chronic appendicitis, or at least, in cases of supposed chronic appendicitis in which the condition is due to defects in the cecum, not inflammatory, but merely structural.

The New Relation Between Anatomy and Chemistry

Dr. William S. Wadsworth: The new chemistry is rapidly invading all the medical sciences. The anatomic sciences must very soon readjust their point of view to harmonize with this general progress. Anatomic descriptions of organs, tissues and parts must be made with due regard to their chemical composition and relations. Anatomy must and will in the future incorporate with its accounts of the sizes, shapes and relations of the parts of the body an adequate account of the chemical substances composing these parts. Chemistry must study the nature of protoplasm, which is the laboratory in which organic compounds are elaborated. Both sciences will gain from a greater coordination. The great strides taken by anatomy under the philosophy of evolution along the lines of embryology, and under the philosophy of the cell doctrine through histology, have prepared for another great step, that of chemical philosophy. Anatomic philosophy must progress if the science of anatomy is to retain a reputable position in the modern sciences. The anatomist of the future must early attain a chemical sense.

Dr. H. H. Donaldson: It is desirable to recognize that the body is composed of structures which are in a continual course of change so far as their chemical composition is concerned. We are often compelled to state merely that this chemical change has taken place without being precise as to the localities or organs in which the alteration has occurred. Dr. Edward Meigs finds it important to determine the chemical composition of striped as contrasted with smooth muscle in order to have a basis for selecting between the various explanations of their physiologic peculiarities. At this time, Dr. Koch is trying to determine the make-up of the brain at different ages in the terms of its chief chemical constituents, in order to find an explanation for the growth changes which occur in it. The description of the body in chemical terms will be an achievement of the same order as that of the older descriptions in physical terms, both useful, medically speaking, in so far as they help in some other way. The older anatomy has proved fundamental to surgery; the newer is destined to occupy much the same position toward physiology. It seems to me, therefore, not a question of desirability in accepting such a point of view, because in essence it is already accepted, but rather a question of emphasizing and giving a value to views which are already widely held, and also a question of haste in order to obtain as soon as possible the advantages of this newer knowledge.

V. 5
1911

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

November 25, XCIV, No. 22, pp. 1057-1104

1 Surgery of Myopia. G. W. Vandergrift, New York.
2 Full Term Ectopic Pregnancy. E. McDonald, New York.
3 Defective Memory as Sole Residual Symptom in Brain Syphilis. C. W. Burr, Philadelphia.
4 *Palpation and New Method for Its Execution. M. I. Knapp, New York.
5 Influence of Milk Station Work on Reduction of Infant Mortality. G. R. Pisek, New York.
6 Principles of Reduction of Infant Mortality. S. J. Baker, New York.
7 Disease of Verumontanum; Report of Four Cases. E. W. Ruggles, Rochester, N. Y.
8 Simple Method of Viewing Roentgenograms in Three Dimensions. M. Girsdansky, New York.
9 By Result of Administration of Salvarsan. D. W. Montgomery and G. D. Culver, San Francisco.

December 2, XCIV, No. 23, pp. 1105-1129

10 Preventive Medicine. D. H. Berger, Philadelphia.
11 Simple Serous Cyst of Kidney. R. S. Fowler, New York.
12 Case of Sexual Inversion. Probably with Complete Sexual Anesthesia. A. Flint, New York.
13 Joint Infections. C. Ogilvy, New York.
14 Facts and Fallacies in Treatment of Syphilis with Salvarsan. J. L. Boehm, St. Louis.
15 The Senile Climacteric. I. L. Nascher, New York.
16 *Carcinosis of Bone, Secondary to a Growth in Some Epithelial Organ. R. H. Boggs, Pittsburgh.
17 Treatment of Varicose Ulcers with Adhesive Straps. A. Gills, Richmond, Va.
18 Points of Personal Hygiene that Are Generally Neglected by the American People. I. W. Brewer, Fort Niagara, N. Y.

4. Palpation.—The novelty of Knapp's method lies in the position of the body of the patient. The patient is first raised sufficiently high and the examining chair is then tilted about 15 degrees, so that the patient lies slantingly, with the head down and the feet up. The examiner stands at the head of the patient and feels with his fingers easily flexed. The abdominal wall, relieved of the necessity of supporting the organs within its cavity, fully relaxes and the palpating fingers perceive any discrepancies with the greatest ease. Presumably, the abdominal organs fall toward the diaphragm, thus releasing the tension, otherwise present, of the abdominal wall. It is this latter method to which Knapp calls special attention.

16. Abstracted in THE JOURNAL, Oct. 7, 1911, p. 1230.

Medical Record, New York

November 18, LXXX, No. 21, pp. 1009-1058

19 One Year's Experience with Salvarsan; Report of 230 Injections with Special Reference to Eye and Ear Complications. B. C. Corbus, Chicago.
20 Principles and Application of Autogenous Bacterial Vaccines in Treatment of Diseases. H. A. Craig, New Brighton, Staten Island, N. Y.
21 Typhoid with Relapse and Multiple Complications. A. A. Eshner, Philadelphia.
22 Wassermann Reaction. J. B. Stein, New York.
23 Acute Dysentery. J. F. R. Andresen, Brooklyn.
24 Anesthesia Dont's. J. E. Lumbard, New York.
25 Improved Submucous Knife. J. Coleman, New York.
26 Aphonia. E. H. Griffin, New York.

November 25, LXXX, No. 22, pp. 1059-1108

27 Traumatic Lesions of Ear. G. Bacon, New York.
28 *Pneumohypoderma (Emphysema Cutis). Scleredema Neonatorum. H. B. Sheffield, New York.
29 Means of Detecting Adverse Selection. A. B. Wood, Montreal.
30 Recovery from Prolonged Blindness. Result of Hemorrhage Into Vitreous. D. Webster, New York.
31 Three New Plastic Operations on Nose and Throat. J. E. Mackenty, New York.
32 *Use of Neoformans Vaccine in Treatment of Cancer. A. Potter, Brooklyn.
33 Drop Method of Administering Ether. H. A. Lucas, Albany, N. Y.

December 2, LXXX, No. 23, pp. 1109-1158

34 *Treatment of Tuberculosis and Other Diseases of Vegetable Parasitic Origin by Deep Muscular Injections of Mercuric Succinimide. B. L. Wright, U. S. Navy.
35 John Brown, M.D., and Brunonian System of Medicine. R. C. Newton, Montclair, N. J.
36 Use of Alcohol and Life Insurance Risk. T. F. McMahon, Toronto, Ontario.
37 *Treatment of Diarrheas in Bottle-Fed Infants. R. H. Dennett, New York.
38 Report on 414 Injections of Salvarsan. E. G. Ballenger and O. F. Elder, Atlanta, Ga.
39 *Mental Stress a Possible Etiologic Factor in Certain Cases of Pellagra. J. W. Preston, Roanoke, Va.
40 *Hammock Appendix. W. R. McKinley, Columbus, Miss.

28. Pneumohypoderma.—In the case reported by Sheffield rupture of pulmonary alveoli and escape of air into the subcutaneous tissues occurred in consequence of violent coughing during an attack of bronchopneumonia complicating measles. The little girl was 3½ years old and up to the present illness in good health. The child had a waxy, rotund face with bluish-black lips, which were rapidly but rhythmically flapping back and forth with inspiration and expiration. The child's features were entirely effaced, and its Kalmuck-shaped, congested eyes were deeply sunken between the highly puffed lids. On palpation a distinct purring (crepitation) was transmitted to the fingers, and on gentle compression of the almost bursting skin it imparted a sensation very much akin to that experienced when touching a tense toy balloon. The patient coughed violently and was in great distress gasping for air. The respirations ranged between 80 and 90 per minute; the pulse was weak and rapid (about 150 per minute) and the heart impulse was effaced. The temperature was 102.5 F. The total freedom of the lower extremities and the absence of pitting readily excluded renal or cardiac dropsy; and the acute onset and the distinct purring on palpation eliminated the possibility of edema following compression of large intrathoracic blood-vessels by a growth or by large tuberculous bronchial glands.

32. Neoformans Vaccine in Cancer.—Potter's observations are based on the use of the vaccines in the 12 following cases: Carcinoma of the jaw, 1; carcinoma of the esophagus, 1; carcinoma of the prostate, 1; carcinoma of the uterus, 2; carcinoma of the stomach, 1; carcinoma of the breast, 2; rodent ulcer, 3; sarcoma of the leg, 1; total, 12. All were inoperable cases and some of them in advanced stages of the disease. No opsonic index was taken in any of the cases. In three of the patients treated no appreciable effect was noticed either locally or in the relief of any of the symptoms and the patients grew steadily worse and finally died. These cases were the carcinoma of the jaw, carcinoma of the esophagus, and the sarcoma of the leg. All were advanced and hopeless cases. In the other nine cases some improvement was soon noticed, in several of the cases even after the first or second injection. The method of administration employed was to give one or two injections weekly or every three days, depending on the length of time the positive phase lasted. The initial dose varied from 25 to 100 million microorganisms and was gradually increased to 200 million when necessary. No other therapeutic measures were used during the course of injections, and the narcotics which all the patients had been receiving in some form or other for some time prior to the injections were stopped abruptly. The most consistent effect of the treatment was the relief of pain. This effect was noticed in a greater or less degree in every case. In one case of cancer of the uterus, pain was relieved after one injection and did not return in spite of the fact that all morphin was discontinued. The general state of health in most of the patients was also much improved. They gained weight, lost their characteristic cachexia and regained their appetite and strength. When the vaccines were discontinued, patients became restless, pain returned or increased, they did not sleep and lost appetite and strength. If the intervals between the administration of the vaccines were prolonged, some of the patients claimed that they could feel the effect of the medicine wear off. In none of the cases of cancer of the internal organs could any diminution in size or change in the consistency of the cancer mass be noticed, but in the three cases of rodent ulcer the ulcerated area became clean, the tendency to bleeding became less, healthy granulations formed about the border of the wound and the disease seemed to be checked. In cancer of the uterus the decrease in the malodorous discharge and the bleeding was marked and lasting.

In this series of cases treated by the neoformans vaccine, at least two of the most distressing symptoms of cancer were greatly relieved in the majority of cases, namely, pain and the cachexia.

34. Treatment of Tuberculosis.—The good results obtained in three cases of tuberculosis strengthen Wright's confidence in the supreme value of mercury in the treatment of this disease, and he believes it to be the chemical affinity of the tubercle bacillus. Whether or not it is also the chemical

affinity of all the vegetable parasites remains to be proved or disproved. He says that it would seem highly improbable that during the short period of nine months of professional work on one ship he should have an abortive case of miliary tuberculosis (none reported), of chronic pulmonary tuberculosis (none reported), of bronchopneumonia (rare), of typhoid, cystitis, otitis, cellulitis, chancroid and furunculosis, and it would indeed be a marvelous coincidence, even more improbable, that each of these abortions should take place immediately following the administration of a chemical given with the definite idea of curing each of these diseases, unless that chemical possessed the curative properties his theory suggests.

Mercury in large initial doses (0.091 gm.) continued every fourth day in decreasing doses, is less liable to produce mercurialism than when the initial dose is small and slowly increased during succeeding doses. Wright has given over 30,000 deep muscular injections of mercury without abscess formation or necrosis. The only contra-indications to this treatment that he knows of are organic lesions of the kidneys of non-bacterial origin and asthma. He says that the solution of mercuric succinimide should be made so that 0.260 c.c. (4 minims) of sterile distilled water equals 0.013 gram (1/5 grain) of mercuric succinimide.

37. **Diarrhœa in Bottle-Fed Infants.**—From a theoretical standpoint Dennett does not feel sure that the mere absence of artificial sugar in the food is the cause of the beneficial effect on the diarrhœa. Boiling the milk changes it in many ways but he believes it makes the food more digestible. During the summer he did not see a single hard curd in any of the stools of babies who were fed on boiled milk. Boiling the milk has little or no effect on the diarrhœa when artificial sugar is added to the food.

From a practical standpoint, he came to the following conclusions: (1) Underfed, poorly nourished babies with diarrhœa, do best on the milk and water mixture, boiled, without sugar. (2) Bad diarrhœas, or those that do not improve on these mixtures are benefited by albumin milk. (3) Babies that have had repeated or prolonged attacks of diarrhœa do best on albumin milk. (4) Older, well-nourished babies with a diarrhœa do best on a barley gruel diet for a few days. (5) Infectious diarrhœas, if seen early, should have a cathartic and starvation for forty-eight hours and no longer. The milk and water mixtures, boiled, or albumin milk, should then be given. (6) Cathartics should be given to babies with diarrhœa with great discretion.

39. **Mental Stress in Pellagra.**—It is to the well-fed, of good habits, who consume little or no corn, and who to appearances would seem to offer good resisting power that attention is directed by Preston, with especial reference to the possible effect of mental stress producing in the nervous system a fertile soil suitable to the development of the disease. Three cases are cited.

40. **Hammock Appendix.**—In seven atypical cases under McKinley's observation the appendix was attached by adhesions to the right ovary, hanging, as it were, between the cecum and the ovary like an ordinary hammock between these two points. In these cases the appendix symptoms predominated, yet some of them were manifestly referable to the ovaries themselves.

Boston Medical and Surgical Journal

November 30, CLXV, No. 22, pp. 819-853

41 Bacillus Coli Infections; Double Pneumonia and Purulent Bronchitis, with Recovery. R. C. Kemp.
42 *Experiences of Beginner in Use of Lane's Plates in Fractures. F. B. Lund, Boston.
43 *Relationship of Fibroids to Sterility. E. B. Young and J. T. Williams, Boston.
44 *Operation for Extensive Prolapse of Uterus. S. Rushmore, Boston.

42. **Lane's Plates for Fractures.**—While Lund does not advocate operation in all simple fractures, as very many of them, such as Colles' fracture and many fractures about the ankle-joint, are easily reduced and tend to stay so after once reduction has been effected, he believes that in bad oblique fractures of the shafts of the bone in which reduction is not satisfactory, operation will do much good.

The special instruments devised by Lane, he says, are very good, but the handles are so long that, though made with the admirable object of keeping the hands of the surgeon away from the wound, they are difficult at first for those not used to them to handle. Lund has found the iodin preparation of the skin most satisfactory. The skin is sterilized at night by the usual methods, and a dry antiseptic dressing applied. On the operating table the dressing is removed and the skin of the entire limb painted with tincture of iodin.

43. **Fibroids and Sterility.**—Of 238 married patients with myomata admitted to the Boston City Hospital, seventy-five, or 31.5 per cent. had never borne children. For purposes of comparison, the obstetric histories of 238 married women, admitted to medical services at the hospital for various conditions having nothing to do with the pelvic organs, were examined by the authors. The average age of the women in each series was practically the same: 38.46 years in those with myomata of the uterus, and 38.40 in those with supposedly normal uteri. It was found that not only the proportion of primary sterility is greater in the women with fibroids, but that such patients bear fewer children than the average. The average age at the last pregnancy in the 163 women with fibroids who had borne children was 28.37 years, as compared with 34.07 which was found to be the average among 100 patients with no uterine disease who had passed the menopause. While the argument may be raised that fibroid patients had not, as a rule, passed the menopause and might have still borne children, it is only necessary to call attention to the average age of these patients—over ten years greater than that at the last pregnancy in the series with normal uteri. On the other hand, the fact that over two-thirds of the patients with myomata had borne children demands investigation as to whether their pregnancies occurred before or after the development of the tumor.

Of these women, thirty-two had been pregnant within one year, and twenty-six within from one to five years. The last pregnancy in twenty-four occurred between five and ten years before seeking treatment for the fibroid; and sixty-nine had not been pregnant for more than ten years. In twelve the duration of time elapsed since the last pregnancy was not stated. The authors believe that it is fair to assume that pregnancy and the tumor coexisted in the fifty-eight cases pregnant within five years; therefore it is evident that, while the percentage of sterility may be high in women with fibroids, the presence of such a growth does not necessarily doom them to childlessness. Although sterility is more common in women who have myomata, these tumors do not always prevent conception or even repeated pregnancies. The exact manner in which fibroids produce sterility remains undetermined. Miscarriage occurs in 44.7 per cent. of the cases in which conception does take place.

44. **Operation for Extensive Prolapse of Uterus.**—The operation reported by Rushmore contains no new features except the combination of procedures. It consists of three steps: 1. Interposition of the uterus. 2. Perineorrhaphy. 3. Ventrofixation of the uterine cervix.

Lancet-Clinic, Cincinnati

November 18, CVI, No. 21, pp. 521-529

45 How Shall We Discover and Deal with Typhoid Carriers? J. H. Landis, Cincinnati.
46 Superstitions in Medicine. E. R. Beard, Liberty, Ind.
47 A Few Medical Observations, 1860-1911. D. H. Van Nuys, Anderson, Ind.
48 Morbid and Vicious Dispositions and Habits. G. M. Gould, Ithaca, N. Y.

November 25, CVI, No. 22, pp. 550-562

49 *Treatment of General Peritonitis. D. N. Eisendrath, Chicago.
50 Clinical Experiences with Hot-Air Treatment. M. Scholtz, Cincinnati.
51 Ancient Cincinnati House Doctors. T. C. Minor, Cincinnati.

December 2, CVI, No. 23, pp. 576-582

52 Why Physicians Who Are Good Business Men Are in Demand by Insurance Companies as Examiners. C. T. Cutting, Seattle, Wash.
53 Ataxic Type of Infantile Paralysis. J. T. Batte, Cincinnati.
54 Glycosuria and Acapnia. B. Holmes, Chicago.

49. Abstracted in THE JOURNAL, Nov. 11, 1911, p. 1637.

Archives of Pediatrics, New York

November, XXVIII, No. 11, pp. 881-960

55 Functions of a State Pediatric Society. H. L. Colt, Newark, N. J.
56 *Parathyroid Glands, with Special Reference to Infantile Tetany. R. W. Bliss, Belmont, Mass.
57 Case of Diabetes Mellitus in Child Under One Year of Age. P. J. Eaton and E. B. Woods, Pittsburgh.
58 *Search for Causative Factor of Scarlet Fever. M. Nicoll, New York.
59 Noma. Report of Case Treated with Salvarsan. M. Nicoll, New York.
60 Effect of Salvarsan on Congenital Lues. L. R. DeBuys, New Orleans.
61 Prophylaxis During Childhood. W. B. Hoag, New York.

56. **Parathyroid Glands.**—In this series of cases the parathyroid glandules were removed in thirty-five children ranging in age from birth to 9 years. Of these, twenty-two, including two cases of infantile tetany, were prepared and examined microscopically. The glands were placed in 4 per cent. formalin, or in Miller's solution and were mounted by the chloroform-paraffin or xylol-paraffin methods. They were then cut in sections 6 microns in thickness and were stained with hematoxylon and eosin and with Van Gieson's stain. Some were stained with Weigert's fibrin stain and some with alon-carmin for pigment. Of these cases seventeen children were under 1 year of age and three over 1 year. Three showed very distinct pathologic changes in the shape of blood-cysts in the tissue. These blood-corpuscles were not encapsulated by a thin line of connective tissue, as has been described by some writers, and they were not especially situated at the periphery of the glands. In these three cases acute tetany could certainly be excluded. None of the infants had had convulsions during life. They all had bronchopneumonia, in one case complicated by pertussis and associated with rickets and syphilis in the other. Two of these were of the non-lobulated types of glandule and the other infant, 7½ months old, had both the lobulated and non-lobulated glands and in all the other cases the lobulated glands were always normal. Two other patients showed an abnormally thickened and increased amount of combined vascular and connective tissue, dilated and filled in many places with red blood-corpuscles. Both of these children had pertussis complicated by bronchopneumonia and one case also had convulsions a short time before death. The non-lobulated types of glands were found in these two cases. In the case of a new-born baby the structure of the glands was of the lobulated type. With the exception of this case, those 3 months old or under were composed of glandules of the non-lobular type. Those over 1 year were of the lobulated type. In the others both lobulated and non-lobulated glands were found in the same child and in some both types were observed in one gland.

For the most part the non-lobulated type was composed entirely of the light-staining cells and the lobulated type of the pink cells. No oxyphilic cells were seen. The nuclei of both types were round and about 1 micron in diameter; the diameter of the cells of the light-staining type averaged 3 microns in diameter, a little smaller at the periphery; while the diameter of the pink cells averaged from 1½ to 2 microns. In two cases of definite infantile tetany four glandules were present in one and three in the other. No parathyroid tissue was found in the thyroid or thymus tissue in either case. In one case all glands were of the non-lobulated type while in the other all were of lobulated structure. In the first case the gland showed a definite increase in the size and amount of the connective and vascular tissue. In not one of the seven glands of both cases were hemorrhages found. Bliss failed to find a close connection between hemorrhagic lesions of the parathyroid glands and infantile tetany.

58. **Causative Factor of Scarlet Fever.**—In July, 1911, Nicoll aspirated into a syringe, which had been thoroughly boiled, some of the contents of an enlarged cervical node in two cases of scarlet fever, inoculated various media and produced no growth. Owing to lack of material, the study was not resumed until October, when another fresh case gave opportunity for the same procedure. On all the inoculated tubes a pure culture of a spore-bearing bacillus was obtained. On the following day another node in the same case gave an identical result. Five cases successively produced the same bacillus from inguinal nodes. An exhaustive study of the cultural characteristics and morphology of this organism was made. Guinea-pigs, rabbits and one monkey were inoculated, with twenty-four broth cultures and in all were produced fever, marked diarrhea, loss of flesh and moderate enlargement of the neighboring lymphatics, from which also the bacillus could be recovered after a week. No rash was observed in any of the cases; neither was there desquamation. The organism was extremely resistant to heat, surviving boiling under pressure for at least twenty minutes. The syringes were then autoclaved on two successive days and the experiment repeated on eleven other patients, on some more than once, with the result that no organism of any kind was found. The piston of the syringes which Nicoll had used in the work and which had subsequently been boiled was stirred into broth and plates inoculated. From all the bacillus was obtained. Furthermore, six stock syringes, which had never been used, gave the same result. Asbestos, with which these pistons were packed, comes from the oldest prehistoric rock. Perhaps, Nicoll suggests, the scarlet fever bacillus had the same origin.

This work teaches the necessity of absolutely indisputable sterilization in all such experiments, and it has demonstrated what seems to Nicoll a most important fact, namely, that in eighteen cases of scarlet fever, in which the patients were ill from two to twenty-four days, enlarged, but not suppurating, lymph-nodes, in four cases in the cervical region and in nineteen in the inguinal region, together with an inguinal node removed post mortem from a septic case of the disease, in no instance showed the presence of streptococcus or other organism. Direct smears from all but the first two cases showed, by the presence of lymph-cells, that the node had been tapped. Here, then, is a disease which involves the lymphatic system from the neck to the groin in forty-eight hours or less and does so apparently without the aid of pyogenic organisms.

Virginia Medical Semi-Monthly, Richmond

November 10, XVI, No. 15, pp. 365-392

62 Sources of Infection of Typhoid. E. G. Williams, Richmond.
63 Symptoms of Typhoid. J. J. McCormick, Norfolk.
64 Treatment of Typhoid. G. K. Vandervlice, Phoebus.
65 Neglected Drunkards: What Virginia Should Do for Them. S. Harnsberger, Catlett.
66 Diagnosis of Pelvic Inflammation. W. W. Pennell, Mt. Vernon, Ohio.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

November, XIII, No. 5, pp. 269-326

67 *Diagnostic Aids in Surgery of Renal Pelvis and Ureter with Special Reference to Pyelography. W. F. Braasch, Rochester, Minn.
68 *Abscess of Uterus Following Labor. C. R. Robins, Richmond, Va.
69 Importance of Positive Diagnosis in Surgery by Means of Frozen Sections. B. C. Willis, Abingdon, Va.
70 Histology and Medical Treatment of Acute and Subacute Inflammation of Nasal Accessory Sinuses. C. M. Miller, Richmond, Va.

67. Abstracted in THE JOURNAL, Nov. 4, 1911, p. 1556.

68. **Abscess of Uterus.**—In Robins' case there was a slight tear, both of the cervix and perineum, the latter of which was repaired by the attending physician with an excellent result. The puerperium was uneventful and without fever and the woman left her bed in two weeks. After being up for another week she began to suffer with a pain in the lower abdomen just to the right of the center radiating toward the right side. The pain came on gradually and was later followed by fever. The pain was variable and would be bad one day and the next not so severe. When Robins saw her she had been confined to her bed for a week. She suffered with cramps during her periods before her marriage accompanied by a dull aching and soreness in the right iliac region, but never had cramps except when unwell. On examination of the abdomen a tender tumor was felt in the lower abdomen slightly to the right side, the tenderness most marked in the right iliac region. On bimanual examination the uterus was found enlarged and the tender mass felt in the abdomen found to correspond to the right horn of the uterus. No enlargement of the tubes could be made out. Temperature 102 F. A diag-

nosis of intramural abscess of the left cornu of the uterus was made and it was advised that the patient be treated by elevation of the upper portion of the body and salt solution enemata to determine if it were possible to carry the patient into an afebrile stage so that operation could be undertaken with greater safety. Four days later there had been no improvement in temperature, the pains were more severe and in addition there was so much nausea that very little food could be retained. Operation was advised and performed the next day.

A median incision was made and the uterus found quite densely adherent to the right wall of the pelvis. The ovary and the appendix were adherent to the uterus but neither tube was involved. In manipulation of the uterus the ovary was separated and there immediately welled up about 2 ounces of thick creamy pus. A supravaginal hysterectomy was performed and the appendix removed. The pelvis was drained with a glass tube through the lower end of the wound. The patient made a somewhat tedious convalescence but finally recovered and is now in excellent health. Examination of the specimen showed the abscess cavity in posterior part of the right horn of the uterus with no communication with the tube or cavity of the uterus. The endometrium was normal.

American Journal of Obstetrics and Diseases of Women and Children, New York

November, LXIV, No. 5, pp. 729-924

71 Progress in Obstetrics and Gynecology. H. E. Hayd, Buffalo.
72 *Further Protest Against Routine Use of Purgatives. E. Walker, Evansville, Ind.
73 *Treatment of Sliding Hernia. W. C. G. Kirchner, St. Louis.
74 *Angioma of Uterus, Bladder and Broad Ligament. Report of Operation and Cure. H. O. Pantzer, Indianapolis, Ind.
75 *Congenital Mucoid Multicystic Tumor of Small Intestine. H. W. Longyear, Detroit.
76 *Diseases of Thyroid in Female. M. F. Porter, Fort Wayne, Ind.
77 *Cervical Fibroids. L. F. Smead, Toledo, Ohio.
78 *Early Diagnosis of Ectopic Pregnancy. R. R. Huggins, Pittsburgh.
79 *Interstitial Pregnancy. N. S. Scott, Cleveland.
80 Multiple Cesarean Section, Both High and Low Operations. W. H. Humiston, Cleveland.

72, 73 and 74. Abstracted in THE JOURNAL, Nov. 7, 1911, pp. 1226 and 1227.

75, 76, 77, 78 and 79. Abstracted in THE JOURNAL, Oct. 14, 1911, p. 1311.

Journal of American Public Health Association, Columbus, O.

November, 1, No. 11, pp. 771-868

81 *Experiments in Book Disinfection. L. B. Nice, Boston.
82 Practical Municipal Milk Examinations. D. M. Lewis, New Haven, Conn.
83 Purification of Water by Anhydrous Chlorin. C. R. Darnall, Washington, D. C.
84 Practical Methods for Supervising Milk-Supply of Cities. J. B. Thomas, Baltimore.
85 Anti-Rabic Institute of Board of Health of Guadalajara. F. Rauda, Guadalajara, Mexico.
86 Methods of Collection, Transmission and Record in Routine Examination of Spinal Fluids. A. J. Chesley.
87 Resumé of Diphtheria Examinations Made in Boston Board of Health Bacteriologic Laboratory in 1909. F. H. Slack, Boston.
88 Quantitative Determination of B. Coli in Heavily Polluted Waters: Study of Presumptive Tests. G. F. Ruediger and F. A. Blyfield, Grand Forks, N. D.
89 Value of Esculin Test. F. E. Hale and T. W. Mella, Brooklyn.

81. **Book Disinfection.**—In order to determine whether saturated carbo-gasoline will kill bacteria when it is in direct contact with them Nice filled three test tube cultures each of *B. coli communis, Staphylococcus pyogenes aureus,* and *B. diphtheriæ.* This was drawn off after one hour and ten minutes and ninety-six hours later cultures were made. Growth occurred in two of the *B. coli* test tubes, in two of the tubes of *S. pyogenes aureus* and in one of the diphtheria tubes. He says that the lack of growth in Beebe's experiments was probably due to his bouillon cultures being washed off by the gasoline, since two of his books were dried only one hour and the third not at all. In Nice's experiments, although the books were dried for forty-eight hours, growth occurred in 80 per cent. of the agar and 25 per cent. of the bouillon cultures. After repeated trials it was found to be impossible to make a stronger solution of carbolic acid in gasoline than about 2 per cent., so there seems to be no way of modifying the carbogasoline method to make it effective. Nice recommended moist hot air as an entirely satisfactory disinfectant for books.

Washington Medical Annals, Washington, D. C.

November, X, No. 5, pp. 299-307

90 Review in Surgery. W. P. Carr, Washington, D. C.
91 Differential Diagnosis Between Ocular and Accessory Sinus Headache. C. Henning, Washington, D. C.
92 Psychopathic Work at Washington Asylum Hospital for Year Ending June 30, 1911. D. P. Hickling, Washington, D. C.
93 Tumors of Male Breast. D. S. Lamb, Washington, D. C.
94 Pellagra. S. R. Karpeles, Washington, D. C.
95 Prophylaxis in Military Service: Typhoid and Venereal. L. H. Reichelderfer, Washington, D. C.
96 *Benzidin Test for Occult Blood in Stool. J. R. Verbrycke, Washington, D. C.
97 Foreign Body in Esophagus. W. A. Wells, Washington, D. C.

96. **Benzidine Test for Occult Blood in Stool.**—Verbrycke's paper is based on 331 tests made on 242 patients. The author uses a technic nearly like that of Schlesinger and Holst, but employs a more dilute mixture of the feces and water and a larger proportion of the reagents. The test is first made with the patient on his regular diet, containing meat, and if this is positive and there is a suspicion that the reaction may result from the presence of the hemoglobin in the meat eaten, the patient should then be put on a lactovegetarian diet for several days and the test repeated. This in the large majority of cases was not found necessary in using this technic as most of the 219 negative reactions out of the 331 tests made were obtained with the patient eating as usual. One hundred and twelve positive reactions were obtained in eighty-eight patients and for the most part were what would be expected from the clinical consideration of the cases. Those cases, not of ulcer or cancer, which caused occult bleeding, with the resultant positive benzidine test, as colitis, hemorrhagic gastritis, severe anemia, etc., could easily be differentiated. Eighteen miscellaneous cases gave positive reactions when blood was not present from the digestive tract and these resulted from the hemoglobin in the animal food eaten. Negative results were later secured in all those who took a lactovegetarian diet for two days. While the author's results differ somewhat from those of other observers, he feels that the considerable number of tests made, and the findings being so consistent with what was to be expected clinically, warrant him in continuing with the same technic.

Archives of Diagnosis, New York

October, IV, No. 4, pp. 323-415

98 Dementia Præcox. W. A. White, Washington, D. C.
99 Diagnosis in Heart Cases. J. J. Walsh, New York.
100 Differential Diagnosis of Cases with Affections Apt to Be Mistaken for Cerebral Tumor. T. A. Williams, Washington, D. C.
101 Acute Focalizing Paralysis. Epidemic and Pandemic. Differential Diagnosis. J. V. Manning, Brooklyn.
102 Dyspepsia. R. T. Morris, New York.
103 Radiography of the Genito-Urinary Tract. G. M. MacKee, New York.
104 Anaphylaxis. J. H. Barach, Pittsburgh.
105 Recent Progress in the Diagnosis of Gastric Diseases. H. G. Watson, New York.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

November, III, No. 2, pp. 161-263

106 Pharmacologic Action of Oxidizing Substances. A. S. Loevenhart and W. E. Grove, Madison.
107 Action of Hydrocyanic Acid on Respiration and Antagonistic Action of Sodium Iodosobenzoate. W. E. Grove and A. S. Loevenhart, Madison.
108 Antiseptic and Bactericidal Action of Sodium Salts of Iodobenzoic, Iodosobenzoic and Iodoxybenzoic Acids. A. Arkin, Madison.
109 *New Water Soluble Action Constituent of Squills. A. J. Ewins, Herne Hill, London, S. E.
110 Physiologic Action of Phenolphthalein Oxime. M. Dresbach, Ithaca, N. Y.
111 Convulsant Action of Acid Fuchsin on Frogs Deprived of Their Cardiac Circulation. D. R. Joseph and S. J. Meltzer, New York.

109. **Active Constituent of Squill.**—Ewins believes that the toxicity of squills is in all probability due to the presence of at least two active principles. 1. A glucosidal substance very easily soluble in water, and resembling in many respects the water soluble strophanthin. This substance has been isolated in an approximately pure form but so far has not been crystallized. The minimum lethal dose of the product

V. 5
1911

is 0.03 m.g for a frog of about 25 gm. in weight, death being produced by the stopping of the heart in systole. 2. A resinous product very slightly soluble in water, readily soluble in alcohol and not precipitated by ether from its alcoholic solution. The minimum lethal dose of this product is 0.06 to 0.07 mg. per frog. From the alcoholic extract of the squill bulb a small quantity of caffein was isolated. The base is present only in very small quantity (0.01 per cent. of the dry bulb).

Kentucky Medical Journal, Bowling Green

October, IX, No. 19, pp. 719-772

112 School Sanitation. D. O. Hancock, Henderson.
113 County Society as Unit for Things Medical. W. A. Poole, Henderson.
114 Treatment of Tuberculosis. W. V. Neel, Henderson.
115 Hygiene in Home and School. E. Hopkins, Henderson.
116 Medico-Public Questions. D. O. Hancock, Henderson.
117 Ectopic Pregnancy. I. Abell, Louisville.
118 Normal Labor in Home. H. S. Zernow, Corydon.
119 Expert Testimony. M. Yeaman, Henderson.
120 Postpartum Hemorrhage. W. S. Forward, Henderson.
121 Importance of Medical Inspection of Schools and Its Present Status. J. W. Welch, Henderson.
122 Pellagra. A. C. Foster, Paducah.
123 Uterine Cancer. H. C. Clarke, Falmouth.
124 Postpartum Hemorrhage. H. D. Rodman, Bardstown.
125 Hernia. G. P. Grigsby, Louisville.
126 Acute Miliary Tuberculosis. P. N. Blackerby, Falmouth.
127 Mechanism of Labor in First and Second Position. S. M. Hopkins, Demossville.
128 Digitalis. R. T. Hocker, Arlington.
129 Educational Influence in Treatment of Tuberculosis. M. Bell, Monterey.

St. Paul Medical Journal

December, XIII, No. 12, pp. 522-560

130 *Transverse Incision of Abdomen. C. F. Denny, St. Paul.
131 Millions of Wrecked Lives from Eyestrain. G. M. Gould, Ithaca, N. Y.
132 *Carcinoma of Uterus. M. M. Ghent, St. Paul.

130. Transverse Incision of Abdomen.—Denny is an advocator of the transverse abdominal incision. He says it gives better access to the operative field; a small or large space is easily obtained; if drainage is needed, a better scar results; there is less liability to lose the packing and less is needed.

132. Cancer of Uterus.—Ghent's patient gave a rather definite history of a fibroid, appearing about the time of the menopause and continuing to cause trouble for nine years. The excessive flowing being complicated with pain and a disagreeable discharge caused her to seek relief. Of the three symptoms, pain, hemorrhage and discharge, the latter was the most troublesome and probably the most definite indication of a malignant change. Physical examination showed the patient to be a weak, cachectic individual with a rapid intermittent pulse. Bimanual examination found the uterus in about the normal position with the cervix soft and dilated. Within the cavity of the uterus could be felt an uneven mass, half the size of a man's fist. The uterus was painful to pressure. A complete hysterectomy at this time was out of the question because the patient's condition would not warrant such a procedure. A simple curettage was done. The tumor proved by microscopic examination to be a fibroid which had undergone malignant changes. In three or four days the patient developed a thrombophlebitis of the left leg. This unfortunate complication was almost too much for her but in about two weeks she began to recover slowly. Recovery was slow and tedious, mostly on account of the leg, but in six or eight months she began to show some improvement. After the curetment the discharge and hemorrhage were gone entirely. In one year she was doing light housekeeping but she was still weak and had that bad color. It was at the end of the first year after the operation that Ghent noticed the cervix began to disappear into the vagina. Instead of being able to palpate the cervix, only the invagination of the vagina could be felt. This would change from time to time; sometimes the cervix would be down in the vagina, more like the normal. The gradual improvement kept up till at the end of four years the patient noticed a few blood spots on the clothing and a little discharge. Her condition was so much improved that Ghent felt she could stand a complete operation which was done, October, 1910. Recovery was uneventful and the patient left the hospital two weeks after the operation in good condition. It is now over a year since the last operation and there is no evidence of a recurrence

Yale Medical Journal, New Haven, Conn.

October, XVIII, No. 2, pp. 53-177

133 Defects of Coordination of Ocular Muscles, with Treatment. J. A. Meek, New York.
134 Syphilitic Skin Lesions Frequently Overlooked. J. D. Gold, Bridgeport, Conn.
135 Regularities and Irregularities Among Physicians. C. E. Brayton, Stonington, Conn.
136 Anaphylaxis. H. G. Jarvis, Hartford.
137 *Case of Thrombosis of Abdominal Aorta in Patient with Thrombo-Angiitis Obliterans. G. Blumer, Providence, R. I.

137. Thrombosis of Abdominal Aorta.—There is little that is unusual about Blumer's case except the rarity of the condition and its association with thrombo-angiitis obliterans. There were no signs of any previous obliterative change involving the aorta. The symptoms and the physical signs were quite characteristic. The extreme suddenness of onset, which might lead to a suspicion of embolism rather than thrombosis, is something that has been noted previously in connection with the subject under discussion. In this particular case there was no evidence either in the heart or in the upper portions of the aorta of a preexisting thrombus which might have become detached. On the other hand, the anatomic appearances of the lesions were distinctly those of thrombosis. There was no difficulty in diagnosing the condition on account of the absence of pulsation in the femoral vessels and the characteristic circulatory and sensory changes.

Journal of Arkansas Medical Society, Little Rock

October, VIII, No. 5, pp. 127-154

138 Etiology and Pathology of Malaria. W. Krauss, Memphis, Tenn.
139 Cerebrospinal Meningitis. A. L. Carmichael, Little Rock.
140 Use of Flexner Serum in Cerebrospinal Meningitis. A. E. Cox, Helena.
141 Anterior Poliomyelitis. D. C. Walt, Little Rock.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

November 18, Vol. CLXXXI, No. 4693, pp. 1385-1436

1 Recent Developments in Recognition, Treatment and Prophylaxis of Syphilis. H. C. French.
2 *Colotomy and Some Misconceptions of Its Results. P. Daniel.
3 Differential Diagnosis of Syphilis and Parasyphilis of Nervous System. F. W. Mott.
4 *Sphygmographic Method for Estimation of Systolic and Diastolic Blood-Pressure. J. D. Windle.
5 *Treatment of Vaccination Site with Picric Acid Solutions. J. F. Schamberg and J. A. Kolmer.
6 *Cerebrospinal Fluid in Acute Poliomyelitis. J. G. Forbes.
7 Rupture of Popliteal Artery and Vein; Diffuse Hematoma. D. Drew.
8 *Two Rare Abnormalities in Course of Operations. J. D. Malcolm.

2. Colotomy.—Daniel emphasizes strongly the proposition that the comfort of a patient with a colotomy is directly proportionate to the presence or absence of oral or nasal accessory sinus sepsis. He says that before doing a colotomy, therefore, all sources of pus likely to be swallowed must be thoroughly dealt with. This will prove the most important of the accessory steps to the operation of colotomy and should be carried out as soon as it is decided a colotomy is to be done and must not be left until the time the colotomy is done, unless of course the latter is performed urgently, when, if possible, the mouth or nose should also be attended to; i. e., at the same time.

4. Estimation of Systolic and Diastolic Blood-Pressure.—For estimating systolic and diastolic pressures Windle uses the Mackenzie ink polygraph and an ordinary Riva-Rocci blood-pressure apparatus. The armlet is first fixed up in the usual way and connected to the manometer. The radial tambour is then applied and the pressure of the spring button carefully adjusted so that the maximal pulsation of the artery is obtained. While a tracing is being taken air is gently pumped into the bag, so that the pulse becomes progressively smaller until it ceases to be recorded; at this moment the systolic pressure is read off. Air is then released very slowly from the armlet, when the pulse wave gradually grows more ample until full pulsation is again reached. The escape of air is then stopped and the diastolic pressure read

off. Windle says that this method is very convenient in the routine use of the polygraph and sufficiently accurate for general purposes. It is a far more reliable index of actual pressure than that obtained by timing the obliteration, or moment of reappearance of the pulse by the finger. It will be found that the systolic reading is usually from 10 to 15 mm. higher than with the ordinary method, due to the fact that escape imperceptible to the finger may take place near the obliteration point. Windle has checked the diastolic readings by the auscultatory method devised by Korotkoff, taking the diastolic pressure by this method at the moment when the sound ceases to be heard on releasing air from the bag. The maximal oscillation of the pulse curve with the sphygmographic method is true, as a rule, within 5 mm. of the auscultatory reading.

5. **Treatment of Vaccination.**—The authors found that the use of a 4 per cent. alcoholic solution of picric acid on the vaccinated area 48 hours after the insertion of the lymph does not interfere with the success of the vaccination. They believe that this treatment lessens the degree of the local inflammatory reaction and that the patients are not so apt to exhibit constitutional disturbance. The epithelial covering of the vaccine lesion is hardened and there is a decreased liability of extraneous bacterial infection. This is doubtless due in part to the antiseptic properties of the solution applied. They have determined by laboratory investigation that picric acid is about four times as efficient as phenol as a local antiseptic. The common organisms on the skin are lessened in number by the application of solutions of picric acid.

6. **Cerebrospinal Fluid in Acute Poliomyelitis.**—Forbes is convinced of the value of lumbar puncture as an aid to diagnosis between cases of acute cerebrospinal meningitis and acute poliomyelitis of the meningeal type. In the former the fluid shows unmistakable characters, marked turbidity, frequently coarse, purulent clot formation, a great excess of albumin, absence of dextrose, a recognition of the meningococcus both in the film preparations and cultures on serum, characters which Forbes has verified in some 200 examinations.

8. **Anatomic Abnormalities of Intestine.**—In one of the cases cited by Malcolm the cecum was found on the left side of the body, as low in the abdomen as usual, and so mobile that it could be brought well into view. The small intestine entered it from its right side and the appendix sprang from just below the ileo-cecal valve. The sigmoid flexure was found to the left of the cecum. Thus all the small intestine was to the right of all the colon. In the second case a diagnosis was made of secondary malignant growth involving and obstructing some portion or portions of the upper part of the alimentary canal. The ascending, transverse and descending colon appeared normal, but when the omentum was turned up there were no small intestines visible anywhere. In their place there was a soft elongated oval mass lying more or less parallel with the long axis of the body. When its lower end, which dipped into the pelvis, was brought through the incision this mass assumed a rounded shape. It consisted of a thin membrane of peritoneum covering the whole of the small intestines and bulged by them into all parts of the peritoneal sac which they usually occupy. The membrane was attached to the posterior abdominal wall transversely above the sacral promontory, and close to this attachment there was a gap in it through which the small bowel passed just before it joined the colon. This opening had a diameter of about an inch and its edge was thickened. The abnormal membrane was incised and afterwards cut away and then the small intestines were exposed and appeared to be in all respects normal. The membrane which had been incised extended up to the transverse colon, to the back of which it was attached. Above the colon another or the same membrane was continued to the stomach across a space of quite 2 inches. From the stomach a membrane passed to the posterior abdominal wall in the usual position of the lower limiting boundary of the lesser sac of the peritoneum. The abnormal membrane was attached at the sides to the posterior wall of the abdomen inside the attachments of the ascending and descending colon, which was rather more loosely fixed than usual.

British Medical Journal, London

November 18, No. 2655, pp. 1387-1392

9 Differential Diagnosis of Syphilis and Parasyphilis of Nervous System. F. W. Mott.
10 Cholera at Palermo. L. Rogers.
11 *Physiologic Action of Amorphous Digitoxin (Digalen). W. L. Symes.
12 Protein Requirement; or, "Do We Eat Too Much"? W. Tibbles.
13 Rheumatoid Arthritis. F. H. Parker.
14 Eight Cases of Catarrhal Jaundice in Epidemic Form. W. J. H. Pinniger.
15 *Vomiting in Exophthalmic Goiter, and Its Treatment. J. A. Nixon.

11. **Physiologic Action of Digalen.**—As far as can be judged from Symes' observations, digalen is an active preparation of digitalis producing characteristic digitalis effects on circulatory system and secretion of urine. Intravenous, subcutaneous and intramuscular injections produced no local trouble.

15. **Vomiting in Exophthalmic Goiter.**—The treatment advocated by Nixon consists in absolute rest in bed with the administration of a substantial diet by mouth; milk, bread and butter, eggs, fish, chicken, broth. At first the patients vomited at rare intervals, but within two days tolerance was established and the food retained. The patients soon discovered for themselves that the vomiting was produced by exertion or movement, rather than by a true inability to digest solid food; and having found this out they took their food with increasing confidence and improved rapidly.

Journal of Tropical Medicine and Hygiene, London

November, XIV, No. 21, pp. 313-332

16 *Method for Preventing Development of Pernicious Malaria. W. M. James.

16. **Pernicious Malaria.**—James has employed the subcutaneous administration of quinin as a preventive measure in intense infections, beginning with somewhat smaller dilutions than 1 to 150 and working up to that strength, in twelve cases, giving 30 to 45 gr. as the initial dose and repeating the doses in equal amounts or less at intervals of four to eight hours, according to the severity of the infection. In four of these cases at the time of admission of the patient a very great number of young parasites, with segmenting forms and multiple infected erythrocytes, was found in the peripheral blood. In six cases there were heavy infections with young plasmodia and quite a number of doubly and trebly infected red blood-cells. In two cases moderate infections with tertian parasites were found, but in one the patient was delirious and in the other comatose. In one case of a very heavy infection with young forms and segmenting and presegmenting parasites, one dose of 30 gr. of quinin in 10 oz. of salt solution was exhibited, followed by the oral administration of 15 gr. three times a day. In all instances when quinin was given by the mouth an acid solution of the sulphate, 5 gr. to the dram, was used. In five cases very heavy estivo-autumnal infections were present, but segmenting forms were not seen. At least 2 to 5 per cent. of the erythrocytes were infected. One preventive dose of 30 gr. of quinin in 10 oz. salt solution, was given on admission, followed by 15 gr. three times a day by mouth. In each case the subsequent paroxysm was mild. A comparison with control cases, in which the infection appeared to be equally intense and in which quinin was administered by mouth in one dose of 20 gr. on admission, followed by 15 gr. three times a day, shows a shorter duration of subsequent fever and much milder clinical symptoms when 30 gr. was administered subcutaneously on admission. There were two cases of tertian infection, which showed cerebral symptoms and ended fatally. In each of these cases the patient was admitted delirious and became comatose; and in each there was a moderate tertian infection. No abatement of the symptoms followed the use of quinin, although the drug was exhibited intravenously in one case on the second day and subcutaneously in the usual dose in each of the cases the rest of the time. Each patient died on the third day after admission. At each autopsy a few tertian parasites were found; intercurrent disease or organic trouble other than mild nephritis was demonstrated. James thinks the method of giving quinin early in severe infections, subcutaneously or intravenously in large doses, in dilutions of 1 to 150, or greater, is logical and practical.

V. 57
1911

Medical Press and Circular, London

October 25, XCII, No. 3781, pp. 435-462

17 Treatment of Ulcerative Colitis. D. Power.
18 Pediatrics in 1910. E. Terrien.
19 Epidemic Anterior Poliomyelitis: Its Symptoms and Treatment. N. P. Marsh.

November 1, XCII, No. 3782, pp. 463-486

20 General Paralysis of Insane. T. B. Hyslop.
21 Apoplexy. S. T. Prues.
22 Extraction of Foreign Bodies from Eye with Corneal Curette. J. M. Wheeler.
23 Treatment of Cardiac Arrhythmia. J. Hay.

November 8, XCII, No. 3783, pp. 487-512

24 Treatment of Scoliosis in Childhood. A. H. Tubby.
25 Hernia. A. Keith.
26 Tuberculous Disease of Bladder. D. Newman.
27 Treatment of Tuberculosis with Koch's Albumose-Free Tuberculin. G. Jochmann and B. Moellers.
28 Ebers' Medical Papyrus. D. McKenzie.

Practitioner, London

November, LXXXVII, No. 5, pp. 597-740

29 Appendicitis in Its Relation to Diseases of Female Pelvic Organs. C. B. Lockwood.
30 Therapeutic Promise of Internal Secretions. L. Williams.
31 Spitting Blood. A. J. Jex-Blake.
32 Recent Attempts to Judge Pancreatitc Activity by Clinical Tests. E. B. Leech.
33 Hour-Glass Stomach. H. J. Paterson.
34 Relation of Vermiform Appendix to External Hernia: Report of Cases. D. Ewart.
35 Recent Work on Paroxysmal Tachycardia. C. E. Lea.
36 Surgical Treatment of Pulmonary Tuberculosis. A. S. MacNalty.
37 Value of Tuberculin in Diagnosis and Treatment of Pulmonary Tuberculosis. H. Vallow.
38 Collunarium or Nasal Lotion. W. Glegg.
39 Thiocol: A Clinical Study. H. G. Cole.
40 Case of Chronic Ulcerative Endocarditis Following Subacute Rheumatism. A. G. Bisset.
41 Treatment of Acne Vulgaris and Pruritus Hiemalis. A. R. Gunn.

British Journal of Children's Diseases, London

November, VIII, No. 95, pp. 481-528

42 Classification of Deaf Children. M. Yearsley.
43 Disease in Homogeneous Twins. E. A. Cockayne.
44 *Case of Infantile Scurvy Due to Sterilized Milk. W. R. Jordan.

44. Infantile Scurvy Due to Sterilised Milk.—An 11-months-old baby was brought to Jordan with the complaint that it had never been well since birth, was wasting and was always crying. It took but little food and never went a whole day without vomiting. Its motions were at times relaxed, at others costive. On examination there were found to be no abnormal signs in the chest or abdomen, the spleen, however, being just palpable. There were slight signs of rickets. There was a very marked *glossitis migrans*. The only teeth cut were the lower central incisors and the gum was bluish and spongy about the left of these. In the upper jaw no teeth were erupted, but over the position of the central incisors were to be seen two large, bluish, spongy masses. Further inquiry elicited that there had been bleeding from the mouth and that two weeks earlier orbital ecchymosis had been observed. The child had been fed from its birth on sterilized milk exclusively, except that for the last four months barley-water had been added. Great care had been taken to get and to keep to the sterilized milk. Put on fresh cow's milk, with citrate of soda, orange-juice and raw beef-juice, the infant began to improve at once, and in two weeks the gums had become absolutely healthy, while there had been no vomiting for four days. Jordan says it is particularly important to bear in mind scurvy as a cause of anemia, crying when picked up and general malnutrition in infants at a time when the conclusions of the Tuberculosis Commission are likely to lead to a greater resort than ever by the public and the profession to the use of sterilized milk and sterilized foods in infant feeding.

Dublin Journal of Medical Science

November, CXXXII, No. 479, pp. 329-405

45 Some Symptoms in Childhood. J. R. Barrett.
46 *Chorea and Its Treatment. S. F. A. Charles.

46. Chorea.—The indications for treatment of chorea, Charles says, are very obvious. In the first place, treat the diseased neuron by rest, restrain your patient in bed, and if thought necessary to exclude all superfluous sensory stimuli, isolate the individual. Second, control the movements with the free use of trional, thereby producing both mental and physical rest. Third, improve the general health with tonics and a good nutritious diet, from which tea and coffee are excluded.

Annales des Maladies des Org. Génito-urinaires, Paris

September 15, XXIX, No. 18, pp. 1633-1728

47 *Gangrene of the Bladder from Injection of a Caustic Fluid. (Gangrène massive de la vessie par injection de caustique.) J. Mock.
48 *Aspiration and Lavage in Treatment of Urethritis. (Nouvelle méthode de traitement mécanique des adénites urétrales.) A. Cariani.

October 1, No. 19, pp. 1733-1824

49 The Modern Cystoscope. O. Ringlet.
50 Accidents Possible During Cystoscopy; Means to Prevent and Remedy Them. (Des accidents que peuvent survenir au cystoscope; moyens de les éviter, moyens d'y parer.) Marion.
51 *Immediate and Remote Results After Fifty-Seven Nephrectomies for Tuberculosis of the Kidney. A. Beckel.

47. Necrosis of the Bladder with Exfoliation.—Mock reports two cases of gangrene of the bladder following injection of diluted ammonia or a solution of salt and vinegar, done in both cases for the purpose of inducing abortion. In the first case the entire inner lining of the bladder sloughed off after which the bladder healed under medical measures in the course of three months. The supposed pregnancy did not exist. In the second case also the inner coat of the bladder sloughed off, but the young woman was left with cystitis and incontinence and there have been signs of pyonephrosis on three occasions. Mock has found on record one similar case of gangrene of the bladder done for abortive purposes, but there are seventy-one on record of gangrene of the bladder occurring during a pregnancy, and he is inclined to believe that some of them, at least, were the results of attempts to induce abortion. The sloughed-off lining was cast off from the third to the seventh week after the caustic injection in his cases. He introduced a very large retention catheter so as to keep the bladder completely at rest, and later injected a weak disinfectant into the kidney pelvis. In the fatal cases of gangrene of the bladder the sloughed-off bladder lining had not been cast off, and the main point is to see that this is removed; cystoscopy is necessary to determine whether the cast of the bladder is still adherent at any point.

48. Aspiration and Lavage in Treatment of Urethritis.—Cariani reports excellent results in his two years' experience with his method of treatment of urethritis based on mechanical principles. He uses a sound studded with fine perforations its entire length, lubricated with glycerin, and induces negative pressure with a connected air pump. After a vacuum has thus been induced in the urethra by ten minutes of aspiration, he maintains the vacuum for some time as a powerful means of influencing the inflamed tissues, and then sends a stream of a solution of potassium permanganate through the sound. By this method the glands around the urethra are sucked out clean; the ten cases reported in detail apparently demonstrate that the therapeutic action of the flushing fluid is immeasurably enhanced by its application in a vacuum.

51. Nephrectomy for Tuberculosis.—Beckel reports forty-one improved or cured and four temporarily improved of the fifty-six patients with tuberculosis of the kidneys treated by André with nephrectomy, since 1902. Two of the patients succumbed to the operation and nine have died since. Fifteen patients had signs of pulmonary tuberculosis at the time, but in seven the pulmonary lesions seemed to retrogress after the nephrectomy. In a number of cases slight tuberculous lesions of the prostate and epididymis also retrogressed. The patients have passed through the ordinary every-day infections and intoxications since without harm, and two of the women passed unharmed through a pregnancy about two years after the nephrectomy.

Archives des Maladies de l'App. Digestif, Paris

October, V, No. 10, pp. 529-588

52 *Lack of Mastication as Factor in Stomach Disease. (L'habitude d'avaler les aliments sans mastication produit-elle des affections de l'estomac?) E. Hallas.
53 Digestion of Milk in the Adult Stomach. (Etude de la digestion du lait naturel et du lait fermenté acide dans l'estomac des adultes.) A. Riva and F. Samarani. Concluded.

52. Pathologic Effect of Insufficient Mastication.—Hallas tested systematically the stomach functioning in thirty-two feeble-minded adults who ate without much chewing but

seemed to have normal digestion. Careful testing revealed, however, abnormal conditions in the stomach in twenty-two, generally some organic trouble.

Archives de Médecine des Enfants, Paris

November, XIV, No. 11, pp. 801-880

54 *Epidemic Cerebrospinal Meningitis in Children at Athens, and Serotherapy. A. Papapanagiotu.
55 *Nasal Diphtheria. (Etude de la diphtérie nasale chez l'enfant.) M. de Biehler and B. K.-Daszkiewics.
56 The Butyric Acid Test for Epidemic Poliomyelitis. (La butyro-réaction de Noguchi-Moore dans la poliomyélite antérieure aigue.) M. Leitao.

54. **Epidemic Cerebrospinal Meningitis in Children at Athens; Serotherapy.**—Papapanagiotu had twenty cases of cerebrospinal meningitis in his charge at Athens during the recent epidemic and he reports the special details of fourteen cases, all in children from 8 months to 10 years old. There was no other case in the fourteen different families, although there was no attempt at isolation during the first few days of the disease or at any time during some of the cases. Under serotherapy all the children recovered with one exception, the mortality thus being only 7.14 per cent. The serotherapy warded off also complications on the part of the lungs, cardiovascular and urinary systems, joints, etc., but seemed less efficient against complications on the part of the nervous system.

55. **Nasal Diphtheria.**—In nine cases of apparently simple coryza in infants, with or without slight fever, bacteriologic examination revealed a primary diphtheria, localized exclusively in the nose. Antitoxin rapidly cured the little patients. There is no doubt, de Biehler says, that primary diphtheria is comparatively common among babies, and bacteriologic examination is necessary in every case of persisting catarrh and it is indispensable before performing any operation on the nasal passages.

Bulletins de la Société de Pédiatrie, Paris

October, XIII, No. 7, pp. 333-375

57 Sound of Heart-Beat Propagated to Cavity in Lung. (Bruit de clapotis synchrone aux battements du cœur dans une caverne pulmonaire chez un enfant.) Variot and P. Petit.
58 *Congenital Amyotonia. (Maladie d'Oppenheim.) L. Guinon and Gauducheau.
59 Intestinal Invagination in Infant. (Invagination intestinale à marche subaigue chez un enfant de 5 mois ½.) Guinon and Fauques.
60 Decompressive Trephining for Cerebrospinal Meningitis. (Méningite cérébro-spinale prolongée à forme cachectisante. Syndrome d'hypertension intra-crânienne. Pronostic fatal. Guérison par une craniectomie décompressive. Double névrite optique par stase.) R. Debré.
61 *Epidemic Poliomyelitis in Brazil. (La poliomyélite à Sao-Paulo.) C. Ferreira.

58. **Congenital Amyotonia.**—In the extreme case reported the head was thrown backward as in severe opisthotonus, the mouth constantly wide open, but there was no paralysis. At times there was transient contracture of certain groups of muscles. This alternation of extreme relaxation with a tendency to transient contracture differs from the typical Oppenheim's disease, and still more from the type that has been described as the tetaniform type of Little's disease.

61. **Epidemic Poliomyelitis in Brazil.**—Ferreira states that there can be no doubt that this disease made its appearance in Brazil toward the close of 1909. Thirteen cases in infants have been observed during the summers since at Sao Paulo and a number at Rio.

Grèce Médicale, Syra, Greece

XIII, Nos. 13-14, pp. 25-28

62 *Youthful Criminals. (La criminalité de la jeunesse.) G. Sykiotis.
63 *Eye Complications with Epidemic Meningitis. (Complications oculaires à la suite de méningite cérébro-spinale épidémique. Sérothérapie.) E. Anargyros. Commenced in No. 12.

Nos. 17-18, pp. 29-36

64 When Death Comes to the Physician. (Le médecin devant la mort.) G. D. Sykiotis.

Nos. 19-20, pp. 37-40

65 *Eradication of Malaria at Athens. (L'assainissement de la ville d'Athènes.) J. P. Cardamatis.

62. **Youthful Criminals.**—Sykiotis comments on the youth of the hold-up men and bandits in Greece and on their increasing number, saying that this is a phenomenon that is attracting attention in most civilized countries even under a paternal government like Germany. Everywhere there is the same constant increase in the number of such criminals and everywhere the ranks are being recruited from the young. The majority of criminals are young fellows, and they must die off young, he says, as it is scarcely to be supposed that the reason why so few criminals are 40 or over is because they have all reformed by this age. It is much more probable, he thinks, that they succumb young to the peculiar vicissitudes of a life of crime.

63. **Ocular Complications of Meningitis.**—Anargyros reports several cases of disturbances on the part of the eye following an attack of epidemic cerebrospinal meningitis. In two cases a right iridochorioiditis in children of 2 and 7 followed a few days after recovery from the meningitis. In the first child it entailed atrophy of the eye-ball although the meningitis had been quite mild. In the other case the eye-ball was found much congested, the anterior chamber almost obliterated, the iris discolored and the lens was grey, thick and opaque at the back. There was no perception of light in this eye but the left eye was normal. Instillation of antimeningococcus serum had a favorable action on the external parts of the eye but none at all on the deeper parts. Conjunctivitis and corneal ulcers in other cases healed up rapidly under the local instillation of serum and disappeared in a few days. Cantonnet reported a similar experience two years ago, the corneal ulcer rapidly subsiding when intraspinal injection of the serum was supplemented by local instillation. (See Abstract 54 above.)

65. **Sanitation of Athens.**—From antiquity Athens has had extensive marshes in its vicinity around the small river Ilissos and its affluents which meander slowly through the marshes, disappearing at times and reappearing below, and there are numerous references in the classic writers to these features of the tableland on which Athens is situated. Malaria has long been endemic and prevalent, and when a commission was appointed, headed by Prof. Cardamatis, to study means for eradicating malaria, it was decided to dig a deeper and straight channel for the Ilissos, hoping thus to drain the marshes and do away with stagnant pools. In the summer it dwindles to a small stream, and this was deepened and straightened. Every eight or ten days the present narrow, straight bed is cleaned with brooms to keep it clean of water-weeds and of mosquito eggs. The results obtained by these simple measures alone have surpassed all anticipations during the five years since. Cardamatis examines the children in the primary schools twice a year for signs of malaria, examining the blood with the microscope and measuring the spleen. He thinks that these findings in the children in the first grades may be regarded as a reliable index of the prevalence of malarial infection. Between 1901 and 1905, from 180 to 280 children were thus examined each year and in from 49.09 per cent. to 92.85 per cent. the findings were positive. During the last five years from 270 to 345 children have been examined each year, and the proportion of positive findings has been, respectively, 58.8; 21.15; 2.66; 0.66 and 0 per cent. He has also eradicated malaria at Anchialos and Marathon, but there he was able to institute general quinin prophylaxis and other measures; at Athens the draining of the marshes was the only general measure.

Journal de Chirurgie, Paris

October, VII, No. 4, pp. 369-508

66 *Treatment of Acute Peritonitis. (Remarques sur le traitement des péritonites aigues.) P. Lecène.

66. **Treatment of Acute Peritonitis.**—Lecène declares that the fate of the patient rests in the hands of the physician first summoned to him. The peritonitis is simply a defensive reaction, and is relatively of secondary importance. The main point is to get the surgeon at once to discover and remove the cause setting up the peritonitis, whether the primary source is in the appendix or gall-bladder or in the perforated stomach or intestine. The Americans have led the way, he says, in treatment of acute peritonitis, and England and Germany are following in their footsteps, but French physicians have not yet entered on this route of early and pathogenic intervention.

V. 5
1911

Presse Médicale, Paris

November 8, XIX, No. 89, pp. 905-912

67 **Importance of Sciences Dealing with Shape and Structure.** (L'avenir des sciences morphologiques.) J. Jolly.

November 11, No. 90, pp. 913-928

68 Importance of Comparative Pathology. H. Roger.

69 *Should Potassium Iodid Be Prescribed with Abnormally High Arterial Tension? (Faut-il prescrire l'iodure de potassium aux hypertendus?) A. Martinet.

69. Dangers of Potassium Iodid with Arterial Hypertension.—Martinet reports some typical cases to show the danger in prescribing potassium iodid for certain patients with arteriosclerosis. Study of these cases shows that the potassium iodid causes trouble only when the hypertension is accompanied by abnormally low viscosity of the blood or when the heart or kidney have little or no reserve force, when the kidneys are unquestionably insufficient and, above all, when a hemorrhagic tendency is manifest. Such patients are constantly menaced by uremia and cerebral hemorrhage. But outside of these conditions potassium iodid is liable to render valuable service. He gives diagrams to illustrate the special findings in four cases, emphasizing the inversion of the normal proportion between the arterial tension and the viscosity of the blood as an indication of blocking of the kidneys, and the aggravation of the condition under potassium iodid.

Revue de Gynécologie, Paris

October, XVII, No. 4, pp. 289-400

70 *Modified Suprapubic Transverse Incision in Gynecology. (L'incision transversale sus-pubienne en gynécologie. Quelques modifications de la technique opératoire. Etude des indications et statistique.) P. Coryllos.

71 Surgical Treatment of Chronic Colitis. P. Begond.

70. Curving Transverse Abdominal Section.—This article is profusely illustrated and describes the technic for and experiences with the curving transverse incision and lifted flap which has recently been described in these columns, page 1874, abstract 66. Coryllos has done with this technic hysterectomy in eight cases, hysteropexy in eight and removed ovarian cysts in two other cases—all with ease and excellent outcome.

Semaine Médicale, Paris

November 15, XXXI, No. 46, pp. 541-552

72 Adonis Vernalis Not a Tonic for the Heart. (De l'inefficacité de la teinture d'Adonis vernalis comme tonicardiaque.) M. Roch.

Archiv für Gynäkologie, Berlin

XCV, No. 1, pp. 1-348. Last indexed November 4, p. 1372

73 Involvement of Internal Genitals in Chloromatous and Granulomatous Processes. (Pathologische-anatomische Kasuistik.) F. Schlagenhaufer.

74 *Rupture of Uterine Cicatrix After Classic Cesarean Section. (Ueber die Ruptur der Uterusnarbe nach klassischem Kaiserschnitt.) Vogt.

75 Puerperal Mortality in Holland. (Kindbett-Sterblichkeit in den Niederlänaen.) C. van Tussenbroek.

76 Hemolytic Streptococci in Vaginal Secretions During Pregnancy and the Puerperium. (Ueber die Hämolyse der Streptokokken im Scheidensekret Schwangerer und Wöchnerinnen.) A. J. M. Lamers.

77 Gaseous Interchanges in the Uterus Musculature. (Experimentelle Untersuchungen über den Gaswechsel der Uterusmuskulatur.) Röhsamen and R. Peristein.

78 Puerperal Mortality in Mecklenburg-Schwerin. (Die Sterblichkeit im Kindbett im Grossherzogtum Mecklenburg-Schwerin in den Jahren 1886-1900.) F. Unterberger.

79 *Venesection as Routine Treatment in Eclampsia. (Zur Klinik, Therapie und Aetiologie der Eklampsie, nach einer neuen Statistik bearbeitet auf Grund von 409 Fällen.) Lichtenstein.

80 Study of Uterine Myomas. (Beiträge zur Lehre vom Uterusmyom mit bes. Berücksichtigung der Blutungen und Gestationsstörungen.) O. Frankl.

74. Rupture of the Cicatrix After Cesarean Section.—Vogt says that the records show that the prognosis of rupture of the cicatrix after the classic Cesarean section is relatively good. Prophylaxis lies in ensuring healing of the incision without reaction. A woman who has been delivered by Cesarean section should be warned to seek constant medical oversight toward the close of a following pregnancy. Rupture is a comparatively rare occurrence. He tabulates for comparison eighteen cases from the literature in which all details are recorded and the rupture remedied by an operation at once.

79. Eclampsia.—Lichtenstein reviews 409 cases of eclampsia, including seventy from the Leipzig gynecologic clinic in charge of Zweifel, discussing and tabulating this material from various standpoints. He calls attention to the fact that the later compilations show that the convulsions cease after delivery in only a third of all the cases, not in 50 or 90 per cent, as the older records teach. The mortality with puerperal eclampsia is unusually high, and the mortality is no better with premature delivery than with rapid artificial delivery. The amount of blood lost seems to be an important factor in the outcome. The women whose convulsions ceased after delivery had lost half again as much blood as those women whose convulsions kept up, and four times as much as those whose convulsions came on during the puerperium. This importance of the blood as a factor in persistence of convulsions is further demonstrated by the fact that venesection was able to arrest the convulsions continuing after delivery. The conclusion seems imperative therefore that causal treatment of eclampsia is not by emptying the uterus but by withdrawing a certain amount of blood. This better than anything else relieves the mother's organism of the toxins causing the trouble. After delivery venesection should be the routine procedure or curetting the recently delivered uterus which is equivalent to the same thing although naturally more dangerous. He advises venesection preliminary to delivery, as this may render it unnecessary to force the delivery. His tables teach further that spontaneous recovery is liable, and remissions in the eclampsia, the pregnancy persisting unmodified to term without further convulsions. The later statistics, he states, testify against rather than for an ovarian or placental origin for eclampsia.

Berliner klinische Wochenschrift

November 13, XLVIII, No. 46, pp. 2053-2096

81 *Advantages of Lime-Poor Food in Certain Cases of Chronic Arthritis. (Behandlung mit kalkarmer Nahrung und ihre Indikation.) M. Hirschberg.

82 *Physiologic Lack of Lime in Breast-Fed Infants. (Die physiologische Bedeutung des Kalkhungers bei Brustkindern im ersten Lebensjahre.) W. Dibbelt.

83 Elimination of Iodin in Milk After Administration of Potassium Iodid. (Ueber die Ausscheidung des Jods in der Milch nach Verabreichung von Jodkalium und Lipojodin.) M. Löns.

84 Simplified Technic for Wassermann Reaction. (Ueber den Einfluss des Cholesterins auf die Verwendbarkeit der Organextrakte zur Wassermann'sche Syphilisreaktion.) H. Sachs.

85 Reflex Epilepsy. (Ein ungewöhnlicher Fall von Reflexepilepsie.) W. Alexander.

86 Structure of Goiter. (Der Bau der Kröpfe und seine Bedeutung für Funktion und Krankheit.) C. Davidsohn.

87 Present Status of Tabetic Bone and Joint Disease. (Tabische Knochen- und Gelenkerkrankungen.) H. Zoepffel. Commenced in No. 45.

81. Lime-Poor Food in Treatment of Chronic Arthritis.—Hirschberg remarks that notwithstanding the amount of research that has been done on the mineral metabolism, very little practical application has been made of the knowledge thus obtained. The importance of lime for the sound and diseased organisms has been proved and also that there is an abnormal amount of lime salts in the articular cartilages in cases of deforming arthritis. Schüller has reported favorable influence in such cases from limitation of the lime in the diet, and Hirschberg's experience has confirmed the efficacy of this measure in this and certain other forms of arthritis. He records the proportions of lime eliminated in the urine on test diets and reports that the joint affection notably improved when the intake of lime was kept low. The metabolic and clinical findings showed a remarkably parallel course. His practice is to have the patients stay in bed for three days on a daily test ration of rice, chopped beef, bread and meat extract bouillon, 1 liter milk, etc., only distilled water being used in cooking. The ration represents about 200 gm. of dry substances and contains about 1.86 gm. lime, CaO. If no more than 10 per cent. of this amount of the lime is eliminated in the urine, there must be retention of lime, and he orders a lime-poor diet for six or eight weeks, using distilled water and strictly avoiding milk, butter, yolk of eggs, potatoes and spinach and eating very sparingly of other vegetables. The cases in which marked benefit is liable are those of chronic ankylosis of the spine, deforming arthritis and the pains in the joint liable to be left after an acute polyarthritis.

82. Lime Starvation in Infants.—Dibbelt's research indicates that the supply of lime which the breast-fed infant gets is below his needs, especially about the end of the sixth month

In the months that follow, the skeleton is at its lowest level of resisting power, while analysis of the milk of women with rachitic infants shows an unusually small lime content. Suckling puppies developed a condition resembling human rachitis when the mothers were fed on a lime-poor diet. The assumption seems plausible that rachitis in some cases is due to a deficiency of lime in the mother's milk; this could easily be determined by testing the milk for lime. By the end of the sixth month the long bones are changing from the nearly solid shaft at birth to a more hollow shaft, to allow room for the bone marrow. This change is possible only by the dissolving of the bone tissue and its reabsorption, preliminary to the forming of the new structure. These changes are promoted by the deficiency of lime at this age, which is thus a physiologic condition. Any morbid influences, however, in mother or child are liable to exaggerate the condition into a pathologic state, which the skeleton at this period is least fitted to cope with.

Deutsche medizinische Wochenschrift, Berlin

November 9, XXXVII, No. 45, pp. 2065-2112

88 *Diagnosis of Sudden Occlusion of the Coronary Arteries of the Heart. (Zur Diagnose des plötzlichen Verschlusses der Kranzarterien des Herzens.) H. Hochhaus.
89 Modern Modifications in the Technic for Cesarean Section. (Wandlungen in der Kaiserschnittfrage.) H. Freund.
90 Physiologic and Pathologic Action of Rarefied Atmosphere in Balloon Trips and Means to Control It. (Physiologische und pathologische Wirkungen des Höhenklimas bei Hochfahrten im Freiballon.) F. J. Flemming. Concluded in No. 46.
91 Sensitiveness of the Skin of the Tuberculous. (Die Tuberempfindlichkeit der Haut des tuberkulös infizierten Menschen). K. Zieler.
92 *Chronic Mixed Infection in Pulmonary Tuberculosis. (Ueber die Frage der chronischen Mischinfektion bei Lungentuberkulose.) H. Kögel.
93 *Endobronchial Spray for Chronic Bronchitis. (Grundlagen und Ergebnisse der lokalen Behandlung chronisch-entzündlicher Bronchial-Erkrankungen.) A. Ephraim.
94 Fibrous Degeneration of the Heart. (Zur Klinik und Pathologie der Myofibrosis cordis.) S. Einhorn.
95 *Conglutination Reaction in Diagnosis of Syphilis. (Ueber die Brauchbarkeit der Syphilisreaktion nach Karvonen.) C. Siebert and Mironescu.
96 Infant Morbidity and Mortality in Summer of 1911. (Die Morbidität und die Mortalität der Säuglinge im Sommer 1911.) L. F. Meyer.
97 *Cancer Mortality in Amsterdam. (Die Krebssterblichkeit in Amsterdam.) A. Grünspan.

88. **Diagnosis of Sudden Obstruction of the Coronary Arteries.**—Hochhaus reports four cases; in two the correct diagnosis was made during life. The most characteristic symptom is the persistence of the attack of apparent angina pectoris for days or weeks, with extreme weakness of the heart, enlargement of the area of dulness, the heart sounds becoming almost inaudible, the pulse much accelerated, with other symptoms of defective heart action, cyanosis, congestion in the liver, tympany and albuminuria. If the heart itself is comparatively sound, it may compensate the disturbances and the above clinical picture may not be presented; only when the myocardium is degenerated is the syndrome as described. In these cases as also in three recently reported by Obrastzow, the syndrome was accompanied by nausea, retching, vomiting and tympany.

92. **Secondary Infection in Chronic Pulmonary Tuberculosis.**—Kögel has examined the sputum of seventeen patients for mixed infection and was surprised to find hemolytic staphylococci in five cases and the long hemolytic streptococcus in only one. All the other patients were free from hemolytic bacteria, and the blood contained only tubercle bacilli. In five cases with cavities, putrid anaerobic streptococci were found but no anaerobes in any other cases. He declares that his findings much restrict the rôle of chronic mixed infection in pulmonary phthisis.

93. **Endobronchial Medication.**—Ephraim has applied medication directly to the bronchi in 161 cases, and thinks that this method has a promising future especially in treatment of asthma. He introduces the nozzle of the spray under control of the bronchoscope or, after anesthetizing the glottis and trachea, introduces the flexible spray tube with the aid of a cannula. The spray has to be under considerable pressure; no general sedatives are required. He has used various drugs and mentions particularly the benefit in chronic bronchitis of addition of a little iodin or weak solution of silver nitrate. He declares that the method is entirely harmless and of decided efficacy in many cases not amenable to any other measures. In his experiments on animals, the endobronchial spray penetrated into the alveoles, but he remarks that the air passages were normal in the animals. The great absorbent power of the bronchial mucosa suggests the possibility of a powerful action by diffusion into the adjoining parts of the lung.

95. **Conglutination Fixation of Complement Test in Syphilis.**—Siebert has been giving Karvonen's reaction a thorough test and has found it more sensitive even than the Wassermann method. It certainly deserves to rank as a valuable supplementary test but whether it can take the place of the Wassermann test is not yet decided. The principle is the same, only that the conglutination of the blood corpuscles, and not their dissolving, is the specific reaction. The corpuscles form clumps, but the conglutinins causing the clumping are entirely different from agglutinins. The conglutination occurs only when the corpuscles have been sensitized by the proper amboceptor and the complement has not been bound. In tests of serum from 100 patients both reactions were negative in the fifteen non-syphilitic cases, and fifty-eight of the syphilitic serums reacted negatively to the Wassermann test but only forty-eight negatively to the Karvonen technic.

97. **Cancer Mortality in Amsterdam.**—The statistics from 1862 to 1902 in regard to cancer mortality at Amsterdam show that cancer was much less prevalent in the newer parts of the town than in the long settled districts. In the decade before 1902, the Jews were responsible for 8.8 per cent. of the total mortality but only for 3.3 per cent. of the cancer mortality. The statistics show further that the proportion of cases of uterine and mammary cancer remains about stationary while the general increase in the cancer mortality is due to cancer of the digestive organs. The number of cases of cancer has increased in the forty years by 80 per cent. for men and 58 per cent. for women, but Grünspan adds that it is a question whether this increase may not be due merely to a more exact diagnosis.

Jahrbuch für Kinderheilkunde, Berlin

November, LXXIV, No. 5, pp. 489-625

98 Teaching of Pediatrics at the University of Stockholm. (Die Pädiatrie als Unterrichts- und Prüfungsfach an dem Karolinischen medico-chirurgischen Institut zur Stockholm.) O. Medin.
99 Infant Morbidity and Measures for Infant Welfare in Chili. (Ueber Säuglingskrankheiten in Chile.) A. Commentz.
100 Lime Content of Breast Milk and Lack of Lime as Cause of Rachitis. (Der Kalkgehalt der Frauenmilch. Zur Frage der ungenügenden Kalkzufuhr als Ursache der Rachitis.) J. A. Schabad.
101 Iron in Infant Feeding. (Das Eisen bei der natürlichen und künstlichen Ernährung des Säuglings.) L. Langstein.

Medizinische Klinik, Berlin

November 12, VII, No. 46, pp. 1759-1800

102 *Present Status of Pathology and Treatment of Syphilis. (Ueber die neuesten Errungenschaften in der Pathologie und Therapie der Syphilis.) E. Finger.
103 Occupational Deformities. (Ueber Berufsdeformitäten.) S. Peltesohn.
104 *Treatment of Obstetric Indentation of the Skull. (Meine Behandlung der Schädelimpression des Neugeborenen.) A. Hoffmann.
105 Toxicity of Blood Escaping Into Open Abdominal Cavity. (Giftigkeit des in die freie Bauchhöhle ergossenen Bluts.) Löwenstein.
106 *Tetany of the Viscera. (Tetania viscerum.) W. Falta and F. Kahn.

102. **Present Status of Syphilis.**—Finger remarks that syphilis assumes three forms according as it affects man, apes or the lower monkeys. It also affects the organs in three ways, some organs being extremely vulnerable, others comparatively invulnerable and suffering no apparent harm for years even when the spirochetes are ensconced in them. Among the organs of this type are the spleen, bone marrow, testicles and relics of the primary sore and secondary eruptions. In still other organs the spirochetes die off rapidly. The fluctuations in the susceptibility of the various organs are what imprints its special features on syphilis. A positive Wassermann reaction indicates an active focus somewhere in the body, but it does not necessarily indicate that a visible or palpable lesion is of a syphilitic origin. An old syphilitic

V. 5
1911

may give the Wassermann reaction on account of some inaccessible focus somewhere, but the suspicious liver tumor, on account of which the test was applied, may be a cancer. Modern research has demonstrated, he adds, that the virus of syphilis is always of about the same degree of virulence—the differences in the course are due to differences in the soil. This seems to render vain all hopes of preventive vaccination like cowpox vaccination. The old assumption as to the importance of vigorous local mercurial treatment has been reenforced, not only for the primary sore but for all external manifestations at any stage, by the recent discoveries in regard to syphilis, as also the impression that treatment has to be long kept up, until the Wassermann reaction becomes negative at each course of treatment and finally becomes permanently negative. He says of salvarsan that it has only symptomatic efficacy while its by-effects may be disagreeable. It differs from mercury especially in the fact that the reaction which mercury induces occurs only in syphilitic tissue, so far as we know, while salvarsan is liable to induce a similar reaction in non-syphilitic lesions, such as those of lichen ruber, psoriasis and lupus. It is possible, he adds, that this is due to the tissue-destroying property of the arsenic. In regard to neurorecurrences, he says that owing to his having been able to keep in view over 75 per cent. of the 500 patients he has treated with salvarsan, he found that forty-four or 9 per cent. presented neurorecurrences. In other clinics the patients have probably been lost track of before the neurorecurrences had had time to develop—this he is convinced is the explanation why Wechselmann and others have had only from 0.2 to 1 per cent. of neurorecurrences in their practice. The frequency and the early development of these nervous troubles render them something entirely new in syphilis. During the same period he encountered only five cases of neurorecurrence among about 2,000 patients treated with mercury and iodid alone. He adds that when Benario points to the 122 cases of neurorecurrences under mercury alone he has found in the literature, and contrasts them with the 194 under salvarsan, he forgets to mention in how many thousands and thousands of mercury cases this proportion developed. The percentage is the vital point, and this Benario disregards. Finger has had as many cases of neurorecurrences among his 500 salvarsan patients as Mauriac encountered among 10,000 syphilitics in the course of thirty years. All the clinical phenomena of the neurorecurrences seem to be manifestations of syphilis of the brain on the basis of a syphilitic arteritis; that is, a primary vascular affection with secondary involvement of the cranial nerves. All the manifestations of chronic arsenic poisoning are the result of a primary toxic action on the capillaries. The primary injury responsible for the neurorecurrence is that from the arsenic on the capillaries; the localization of the virus at the points of lesser resistance is the secondary process. Finger recalls that two of his patients, apparently entirely healthy except for recent syphilis, died with brain symptoms not very long after an injection of salvarsan, and necropsy revealed recent tuberculous meningitis, traceable to a softened bronchial lymph-node. The evidence suggests that the salvarsan set up a destructive process in the tuberculous lymph-node, and this entailed the tuberculous meningitis. This danger was illustrated in a further case in which a child with chronic otitis media also succumbed to fresh suppurative meningitis, soon after salvarsan treatment. The tendency to recurrence of lues cerebri is well known, and he has witnessed in several cases recurrence later of a neurorecurrence. Mercury given in conjunction with the salvarsan does not seem to be able to ward off danger, he remarks, witness the three cases of fatal hemorrhagic encephalitis that have been published. In conclusion he says that as neurorecurrences were observed in 4 per cent. of his patients with primary and with tertiary syphilis and in 12 per cent. in the secondary stage, he repudiates salvarsan treatment of syphilis, especially in the early secondary stage.

104. **The Treatment of Obstetric Indentation of the Skull.**—Hoffmann squeezes the side of the skull below and has thus been able by his manipulations to make the depressed portion spring up into place without leaving a trace of the indentation.

106. **Tetany of the Viscera.**—Falta and Kahn report experiences which show that excessive excitability or excessive stimulation of certain internal organs is the cause of many symptoms whose source has hitherto been a mystery. In tetany, besides the ordinary familiar symptoms, others may be going on inside the body, the autonomous nervous system participating in the syndrome and inducing acceleration of the heart action, angiospastic or gastro-intestinal phenomena, dyspepsia, vomiting, colic, diarrhea, indicanuria, hyperchlorhydria or hypersecretion and premature evacuation of the stomach. They have studied these phenomena with roentgenoscopy and watched them come on, reach their acme and subside parallel with the attack of tetany, and they have further studied them after exploratory injection of epinephrin or pilocarpin. In the acute phase of tetany it is remarkable to observe the intense exaggeration of the action of pilocarpin and the abnormally low level at which its toxic by-effects become manifest. In two cases they saw with the Roentgen rays how the stomach became constricted into an hour-glass shape during the attack of tetany; in one case the stomach returned to normal almost at once, but in the other case the constriction was more intense, the stomach shrinking to half its normal size and weeks passing before it finally regained its normal outline. In recurring tetany there is frequently a tendency to cachexia, probably on account of disturbances in metabolism from changes in the autonomous nervous system interfering with assimilation. In the acute stage or soon after they frequently had occasion to observe signs of hyperfunctioning on the part of the thyroid, confirming the interrelations between the various glands with internal secretion. Their theoretical explanation of tetany is that the ganglion cells of the spinal cord are regulated in their functioning by a hormone from the parathyroid bodies, and that with parathyroid insufficiency this delicate inhibiting action is suspended and the ganglion cells accumulate abnormal amounts of energy. The discharge of this energy occurs under varying conditions, differing with the constitution, the momentary predisposition and external factors in each individual case, the resulting syndromes being widely diverse. The influence of the parathyroid hormone on the lime metabolism (MacCallum and Vögtlin) suggests a loss of calcium in the ganglion cells as further responsible for their abnormal excitability.

Monatsschrift für Geburtshilfe und Gynäkologie, Berlin

November, XXXIV, No. 5, pp. 513-620

107 Relations Between Tuberculosis and Pregnancy. (Experimentelle und klinische Beiträge zur Frage nach den Beziehungen zwischen Tuberkulose und Schwangerschaft.) R. Cristofoletti and H. Thaler.

108 Puerperal Anaerobic Streptococcus Infection. O. Bondy.

109 *Postoperative Thrombosis and Embolism. (Weitere klinische Beiträge zur Aetiologie und Prophylaxe postoperativer Thrombose und Embolie.) H. V. Klein.

110 Torsion of Movable Cecum. (Darmverschluss der Flexura hepatica coli, zugleich ein Beitrag zur Torsion des Coecum mobile.) E. Puppel.

109. **Prophylaxis of Postoperative Thrombosis.**—The experiences related show that this complication occurred in 0.9 per cent. after 5,524 operations at Wertheim's clinic at Vienna in the last three years, while at seven other clinics the percentage ranged from 1.1 to 3.5 per cent. Wertheim had eleven cases of fatal embolism, a proportion of 0.23 per cent. Klein emphasizes in prophylaxis the necessity for watching over the heart and toning it up before the operation and avoiding too long waiting. Food and fluids should be given the patients after the operation more abundantly than is generally the rule, and the functioning of heart and lungs should be kept in good condition by drugs and exercises.

Münchener medizinische Wochenschrift

November 7, LVIII, No. 45, pp. 2369-2424

111 *Decompressive Puncture of Corpus Callosum. (Weitere Mitteilungen über Gehirndruckentlastung mittelst Balkenstiches.) G. Anton and F. G. v. Bramann.

112 Specific Cutaneous Reaction in Syphilis. (Hautallergie bei Syphilis; ihre diagnostische und prognostische Bedeutung.) H. Noguchi.

113 Salvarsan in Frambesia and "Bush Yaws." (Bericht über die Behandlung von 700 Fällen von Framboesia tropica und 4 Fällen von Pian Bois mit Salvarsan.) F. C. Flu.

114 *Roentgen Rays in Diagnosis of Intestinal Stenosis. (Die Röntgenuntersuchung bei Verengungen des Dickdarms. Röntgenologische Frühdiagnose des Dickdarmkarzinoms.) G. F. Haenisch.

115 Advantages of Exploratory Exposure of Both Kidneys After Failure of Other Diagnostic Measures in Tuberculosis. (Zur Frage der explorativen Blosslegung beider Nieren bei Tuberkulose.) R. Paschkis.

116 Importance of Salts in Breast Milk. (Massgebende Rolle der Salze der Frauenmilch bei der Ernährung im Säuglings- und ersten Kindesalter.) H. Friedenthal.

117 Injurious Influence of Constipation on Urinary Organs. (Habituelle Stuhlverstopfung und Harnorgane.) P. Asch.

118 Bacillus-Carriers Responsible for Epidemics of Typhoid in New Sanatorium. (Der Typhus in der Heil- und Pflegeanstalt Egling.) F. Ast.

119 Medical Inspection of Bavarian Prisons. (Aerztliche Untersuchungen an Kaisheimer Gefangenen.) T. Viensteln. Commenced in No. 44.

120 Responsibility of Physician for Malpractice of His Subordinates. (Ueber die Mitschuld des Arztes bei Verstössen von Hilfspersonen.) O. Küstner.

111. Puncture of the Corpus Callosum.—Anton and von Bramann have now a record of fifty cases in which they punctured the corpus callosum to relieve the brain from pressure or disturbances in circulation and absorption. In an instructive table they summarize the nine different indications for which the measure was applied, and list under fifteen headings the effects and outcome in the cases. They suggest that therapeutic infusion might be done by this means, which their experience has shown is harmless. The cortex and the convex wall of the cerebrum are not injured while the puncture restores the communication between the cavity of the ventricle and the subdural space, and this communication can be kept open for several months. This provides a broad surface for absorption of the cerebral fluid. On suspicion of a neoplasm or cyst in the fourth ventricle, puncture of the corpus callosum may relieve the choked disk and thus postpone loss of vision; it may be possible to act on the optic nerve through the orbit in case the choked disk persists. This technic has been proved feasible in a case of tumor with atrophy of the optic nerve. They discuss other means that have been applied to relieve pressure on the brain, their conclusions from the records on the subject to date being that decompressive trephining often fails to relieve, while slitting the dura is liable to inflict too much injury on the part of the brain involved, and trephining in itself does not answer the purpose of removing the cause. This is accomplished, however, by puncturing the corpus callosum, thus opening a permanent communication between the ventricle and the subdural space in the roof of the lateral ventricle. The needle is readily introduced down through the intercerebral fissure between the hemispheres, after a hole has been drilled close to the median line, just back of the frontoparietal suture, down to the dura. A minute incision in the dura is then made at a point where no large veins are visible, and through this the curved cannula is inserted until it hits against the falx cerebri and, gliding along this, reaches the corpus callosum through which it is pushed with some force, and fluid then escapes.

114. Roentgen-Ray Examination of Stenosis in the Large Intestine.—Haenisch gives the Roentgen ray findings in nineteen typical cases of stenosis in the large intestine, all confirming the instructive information to be obtained from roentgenoscopy during and after rectal injection of a suspension of bismuth with bolus alba. For this he mixes 300 gm. of bolus alba with ½ liter of warm water and stirs in 75 gm. of bismuth carbonate, then dilutes with another ½ liter of warm water. The patient is thoroughly purged and cleansed beforehand. The patient lies on his back and the rectal injection is made under direct inspection with the Roentgen rays of the upward passage of the mixture. Any tendency to stenosis is readily recognized by the arrest and accumulation of the mixture below. This method permitted the diagnosis of cancer in its incipiency in some cases and localized the stenosis or explained the cause of obstinate constipation. After the examination the mixture should be carefully siphoned out again. In dubious cases he repeats the procedure and takes radiograms at instructive moments. The progress of the bismuth mixture can be traced up to the cecum in most cases; this does not require more than a few minutes. In siphoning out the mixture, the part of the intestine below the stenosis is rapidly emptied while the mixture from above this region comes more slowly, and roentgenoscopy locates the dividing line and the various features of the stenosis.

Therapeutische Monatshefte, Berlin

November, XXV, No. 11, pp. 645-700

121 Results to Date of Experimental Chemotherapie. (Die Ergebnisse der experimentellen Chemotherapie.) M. Jacoby.

122 Research on Catgut. (Beitrag zur Kenntnis des Catguts.) J. Voigt.

Wiener klinische Wochenschrift, Vienna

November 9, XXIV, No. 45, pp. 1551-1586

123 *Action of Anilin Dyes on the Skin. (Klinische und experimentelle Untersuchungen über die Einwirkung von Anilinfarbstoffen auf die menschliche und tierische Haut.) O. Sachs.

124 *Thrombosis of Mesenteric Arteries and Veins. (Ueber Verschluss der Mesenterialgefässe nebst Mitteilung eines operativ geheilten Falles.) J. Goblet.

125 Radium in Treatment of Bladder Tumors. (Radiumbehandlung von Blasengeschwülsten.) R. Paschkis.

126 Vaccine Diagnosis and Treatment in Gonorrhea. (Vakzinediagnostik und -therapie bei gonorrhoischen Affektionen.) R. Köhler.

123. Action of Anilin Dyes on the Skin.—Sachs noticed a remarkable production of warts or warty eczema on the hands of four persons working in anilin dyes. Tests of the various dyes rubbed into the inner surface of the rabbit ear confirmed the property of these dyes to induce granulation and epithelioma-like excrescences. Control tests with white of lead, cinnobar, sienna and other mineral dyes were negative. These experiences thus show that this property of promoting the growth of epithelium is not restricted to scarlet red but belongs also to a number of the other anilin dyes, and they can be utilized for therapeutic purposes.

124. Thrombosis of the Mesenteric Vessels.—Gobiet has found sixty-seven cases on record in which thrombosis of the mesenteric arteries or veins was given operative treatment, and eleven of the patients recovered. He adds a twelfth case of recovery to the list, and reviews the history, diagnosis and outlook. In few of the cases was the syndrome typical. The most constant symptom is the sudden, intense pain, the severe collapse and the violent peritoneal symptoms which yet have no characteristic features. When severe abdominal symptoms become evident the diagnosis is facilitated, as was the case with his patient. Further aid in the diagnosis is afforded by embolism in other regions or coming on as a complication. The main point is to think of the possibility of infarction of the intestine. The syndrome closely resembles that with acute pancreatitis. In Brunner's compilation of sixty cases, forty-seven of the patients died or were operated on in from one to nine days, but in the other cases the affection lasted from two weeks to three months. A spontaneous cure is possible if the obstruction occurs so slowly that a collateral circulation can develop; this is more liable with the inferior than with the superior mesenteric artery. Even when this occurs, stenosis may follow from cicatricial constriction. In his case the trouble developed with intense pain and repeated vomiting. Six hours later the collapse was very severe, pulse small and fluttering, heart sounds indistinct, face covered with cold sweat, breathing difficult, cyanosis extreme, with edema in the feet and scrotum and 2 per 1,000 albuminuria. The abdomen was distended and tender and a resistance was felt above the left Poupart's ligament, reaching to the umbilicus and movable. There was some resistance also in the right side of the abdomen, and no stool or flatus followed a high injection. Thrombosis of the mesenteric vessels was the presumptive diagnosis; after waiting fourteen hours, hoping the patient might revive, the abdomen was opened under spinal anesthesia and 320 cm. of the small intestine was resected, the hemorrhagic infarction extending for 300 cm. and including all the layers of the intestinal walls and the mesentery, the mesenteric veins being plugged with fresh thrombi, the arteries intact. No bacteria could be found in the resected specimen. The patient rapidly recovered and returned to his work in the mines. Sachs is not very favorably inclined to spinal anesthesia as he lost a patient from paralysis of the respiration center after an operation and in

V. 5
1911

two other cases had paraplegia persisting for months, yet in these cases of extreme collapse with serious peritoneal mischief he advocates the spinal technic.

Zeitschrift für klinische Medizin, Berlin

LXIII, Nos. 5-6, pp. 389-558. Last indexed November 4, p. 1576

127 Carbon Dioxid Tension of the Blood in Disease. (Ueber die Kohlensäurespannung des Blutes in pathologischen Zuständen.) O. Porges, A. Leimdorfer and E. Markovici.
128 Acids in the Urine. (Zur Kenntnis der Säuren im Harn.) E. Magnus-Alsleben.
129 *Treatment of Syphilitic Cardiovascular Disease. (Behandlung der syphilitischen Herz- und Gefasskrankheiten.) A. Gigard.
130 *Pleurisy and Tuberculosis. (Pleuritis und Tuberkulose.) H. Köster.
131 Multiple Xanthelomas and Jaundice. (Xanthelasma und Ikterus.) F. Chvostek.

129. See Abstract 218 in THE JOURNAL, Oct. 14, 1911, p. 1333.

130. See Abstract 115 in THE JOURNAL, Dec. 9, 1911.

Zeitschrift für Urologie, Berlin

November, V, No. 11, pp. 881-960

132 Improvement in Cystoscope. (Ueber Verbesserungen an den optischen Systemen der Cystoskope.) M. von Rohr.
133 Case of Bilateral Double Ureter and Kidney Pelvis. (Fall von beiderseitiger Verdoppelung der Nierenbecken und Ureteren.) A. Seelig.

Zentralblatt für Gynäkologie, Leipzig

November 11, XXXV, No. 45, pp. 1553-1584

134 *Gynecology in Insane Asylums. (Gynäkologie und Irrenhaus.) R. S. Schultze.
135 *Ligation of Afferent Vessels in Severe Postpartum Hemorrhage. (Die Unterbindung zuführender Gefässe am Orte der Wahl bei schweren postpartalen Blutungen.) R. Krönig.
136 Posterior Cervical Cesarean Section. (Zur Sectio caesarea cervicalis posterior nach Poinso.) Peters.

134. **Gynecologic Lesions and Insanity.**—Schultze called attention in 1880 to the possible importance of displacement of the uterus, inflammation of the ovaries and uterus and old perineal tears as factors in nervous and mental disturbances. He related cases to show the prompt and permanent benefit derived from appropriate treatment of the gynecologic lesions, correction of the dislocation or provision for drainage of stagnating catarrhal secretion. He insisted on the advantage of having a trained gynecologist on the staff of every insane asylum and provision for an operating room. Bossi's recent statements in the same line were recently summarized in these columns, September 30, page 1173, and Hobbs in 1902 reported similar practical experiences during a five-year period at the London, Ontario, asylum. He found 253 women requiring operative treatment for some gynecologic affection among 1,000 examined. Five of the 253 operated on died and 100 were cured of their mental trouble and fifty-nine improved, as he published at that time. In the ten years preceding only 37.5 per cent. of the inmates had been discharged as cured, while during the five years of Hobbs' incumbency 52.7 per cent. were discharged as cured and improved. Schultze informed the authorities in Germany of Hobbs' success as a practical illustration of his ideals, but he does not know of any attention having been paid to his suggestions. Bossi advocates that a gynecologist should be called in at once in every case of a tendency to mental derangement, especially with ideas of suicide. He urges the practitioner and the public to insist on gynecologic examination, even before calling in the psychiatrist.

135. **Ligation of Arteries for Severe Post-Partum Hemorrhage.**—Krönig has had no death among the thirty-five women with placenta prævia delivered by Cesarean section, yet when the bleeding is from the vessels in the isthmus he prefers to ligate on both sides the hypogastric and ovarian arteries. This is unusually easy with the puerperal uterus, and is readily done in ten or fifteen minutes while it is a much less serious operation than supravaginal amputation, which some are advocating under these conditions. Krönig applies Gauss' method of compressing the aorta, after failure of the usual methods, and prepares the woman for a laparotomy. An incision is then made in the median line and the uterus is pushed to the left and the peritoneum is slit over the right hypogastric artery, the ureter pushed aside, and the hypogastric artery is then easily located as it leaves the iliac artery. The ovarian artery is ligated in the broad ligament and, if desired, a ligature can be thrown around the round ligament to block the artery in it. This conservative method of arresting post-partum hemorrhage has many advantages over mutilating measures, as he relates in detail.

Gazzetta degli Ospedali e delle Cliniche, Milan

November 9, XXXII, No. 135, pp. 1427-1434

137 Tuberculosis of Hernial Sac. (Contributo allo studio della tubercolosi del sacco erniario.) A. Arcangeli.

Policlinico, Rome

November 12, XVIII, No. 46, pp. 1449-1480

138 Leishmaniasis in Calabria. F. Mottola.
139 Disturbances in the Autonomous Nervous System. (Linee direttive fondamentali della moderna patologia del simpatico.) N. Pende.

Riforma Medica, Naples

November 6, XXVII, No. 45, pp. 1233-1260

140 Action of Cancer Serum on Saccharomyces. (Il potere fagocitario del siero del carcinomatosi pel saccharomices neoformans di Sanfelice.) O. Uffreduzzi.
141 Iodin Sterilization of the Skin. (Sulla sterilizzazione del campo operatorio colla sola tinctura di iodo.) G. Monzardo.
142 Premature Senilism: Progeria. (Sopra un caso di geroderma genito-distrofico.) D. De Chiara.

Hospitalstidende, Copenhagen

October 25, LIV, No. 43, pp. 1209-1240

143 *Extensive Resection and Extirpation of the Bladder. (Udstrakt Resektion og Totalexstirpation af Urinblæren.) T. Rovsing. Commenced in No. 42.
144 Roentgenoscopy of Stomach. (Röntgengennemlysning af den normale Ventrikels Leje.) P. K. Faber. (Gastroptose og Gastropexi.) L. Kraft.

November 1, No. 44, pp. 1241-1264

145 Fibrositis. P. Lorentzen.

November 8, No. 45, pp. 1265-1296

146 The Two-Route Method of Treating Lupus: Potassium Iodid Internally and Ozone Locally. (Behandling af Slimhindelupus ad med. Pfannenstill.) O. Brandberg.

November 15, No. 46, pp. 1297-1328

147 *Pathology of Tendon and Environing Tissues. (Peritendinitis, Cellulitis peritendinosa, Tendinitis traumatica. Bidrag til Senevævenes Patologi.) C. Wessel. Commenced in No. 45.

143. **Extensive Resection or Removal of Entire Bladder.**—Rovsing opened with this address the discussion on this subject at the second international urologic congress which met at London, July 24, 1911. He tabulates the details of sixteen unpublished cases of extensive resection of the bladder, adding these to the ninety-six compiled by Rafin in 1905. He further tabulates the details of fifty-eight cases of removal of the entire bladder including several previously unpublished. He calls attention to the frequently observed fact that villous papillomas which show no signs of malignancy even on microscopic examination yet recur as a diffuse infiltrating carcinoma; Rovsing has encountered a number of cases of this kind. One was in a man of 24 who had the growths removed again and again, finally presenting what Rovsing calls a total villosis. He then removed through a suprapubic incision nearly the entire mucous lining of the bladder, and with repeated cystoscopic examination removed on five later occasions minute recurring growths until the mucosa was entirely clean. It grew again smooth, and the bladder functioning is now normal and there has been no sign of trouble during the year and a half since. If the mischief in this case had been of an actual malignant character, there would have been concerous degeneration long since. Cancer of the bladder seems to display less tendency to metastasis than cancer elsewhere as a rule; this encourages radical operations. To date, the entire bladder has been removed only in the most serious cases, but the ultimate outcome, especially when the danger of cancerous degeneration later is taken into account, is actually better than with partial resection. The mortality in Rovsing's cases with his method of implanting the ureters in the skin in the lumbar region was only 21.4 per cent., exactly the same percentage as in the 112 cases of partial resection. This is the more remarkable as the patients were all extremely debilitated. The operative mortality in the total fifty-eight cases of removal of the entire bladder was 50 per cent. The crucial point is the care of the ureter mouths afterward, where to implant them, and the ultimate outcome in the

various groups of cases reported in which the ureters were implanted in the intestine, vagina, bladder stump or skin, testifies to the advantages of the latter technic. It has been applied to date in nine cases, and the results encourage its application as destined to supersede partial resection without waiting until it is the last resort, but as a routine procedure for bladder tumors. The postoperative mortality of cystectomy is generally due to complications from implanting the ureters. When urine stagnates at their mouths or infectious matter brushes them, there is almost certain to be trouble sooner or later, but all this is avoided by bringing the ureter mouths out through the skin in the lumbar region and having the patient wear a portable urinal. His technic and the simple, convenient urinal he has devised were described in THE JOURNAL, Aug. 31, 1907, page 809.

147. **Pathology of the Tendons.**—Wessel discusses the various forms of inflammation in and around tendons and their sheaths, reviewing the extensive experience in this line at the Copenhagen general hospital, and comparing the data with those published elsewhere. The importance of trauma, from minute ruptures of the finest fibers in the course of unaccustomed muscular exertion to severe traumatic injury, is being accorded a more and more prominent place in the pathology of tendons and their environment. The acute crepitating affections are generally located outside of the tendon sheaths, and the tendon tissue itself may be the seat of traumatic injury entailing cicatricial changes which generally are diagnosed as a rheumatic affection but which are amenable to surgical removal of the cause. He cites illustrations of different types and illustrates puzzling points in the pathologic anatomy.

Ugeskrift for Læger, Copenhagen

November 9, LXXIII, No. 45, pp. 1631-1690

148 Present Status of Acute Dilatation of the Stomach. (Den akute Ventrikeldilatation.) O. Wising.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

THE INHERITANCE OF ACQUIRED CHARACTERS. A Hypothesis of Heredity, Development and Assimilation. By Eugenio Rignano. Authorized English Translation by Basil C. H. Harvey, Assistant Professor of Anatomy, University of Chicago. With an Appendix on the Mnemonic Origin and Nature of the Affective or Natural Tendencies. Cloth. Price, $3 net. Pp. 413. Chicago: The Open Court Publishing Co., 1911.

REPORT OF INFANTILE PARALYSIS IN THE STATE OF WASHINGTON DURING 1910. By Eugene R. Kelley, M.D., Assistant State Health Commissioner, Walter Gellhorn, M.D., and John B. Manning, M.D. With an Appendix, Infantile Paralysis in the City of Seattle. By Willis H. Hall, M.D., First Assistant Medical Inspector, Seattle Health Department. Paper. Pp. 66.

THE ORIGIN AND PREVALENCE OF TYPHOID FEVER IN THE DISTRICT OF COLUMBIA (1900-1910). Report 4. By L. L. Lumsden and John F. Anderson (including articles contributed by Thomas B. McClintic and Wade H. Frost). Bull. 78, Hygienic Laboratory, U. S. P. H. and M.-H. S. Paper. Pp. 196. Washington: Government Printing Office, 1911.

THE TREATMENT OF FRACTURES BY MOBILIZATION AND MASSAGE. By James B. Mennell, M.D., B.C., Late Resident Medical Officer of St. Thomas' Home. With an introduction by Dr. J. Lucas-Championnière, Chirurgien Honoraire de l'Hotel Dieu. Cloth. Price, $4 net. Pp. 458, with 66 illustrations. New York: Macmillan Co., 1911.

TWENTY-SECOND REPORT OF THE STATE BOARD OF HEALTH OF WISCONSIN, For the Two Years Ending Sept. 30, 1908. With Report of the State Bureau of Vital Statistics Relating to the Registration of Births, Deaths, Marriages, Accidents and Divorces. C. A. Harper, M.D., Secretary and Executive Officer, Madison, Wis.

THE PRINCIPLES OF SANITARY TACTICS. A Handbook on the Use of Medical Department Detachments and Organizations in Campaign. By Edward Lyman Munson, A.M., M.D., Major, Medical Corps, United States Army. Cloth. Price, $2. Pp. 306. U. S. Cavalry Association, Fort Leavenworth, Kan.

ENOLOGICAL STUDIES. The Chemical Composition of American Grapes Grown in Ohio, New York and Virginia. By William B. Alwood, Enological Chemist. Bull. 145, Bureau of Chemistry, U. S. Department of Agriculture. Paper. Pp. 35. Washington: Government Printing Office, 1911.

MANUAL OF THE INTERNATIONAL LIST OF CAUSES OF DEATH. Based on the Second Decennial Revision by the International Commission, Paris, July 1 to 5, 1909. Department of Commerce and Labor, Bureau of the Census. Cloth. Pp. 297. Washington: Government Printing Office, 1911.

A STUDY IN TROOP LEADING AND MANAGEMENT OF THE SANITARY SERVICE IN WAR. By Major John F. Morrison, General Staff, U. S. Army, and Major Edward L. Munson, Medical Corps, U. S. Army. Cloth. Price, $1.25. Pp. 245. U. S. Cavalry Association, Fort Leavenworth, Kan., 1910.

SYPHILIS FROM THE MODERN STANDPOINT. By James McIntosh, M.D., Grocers' Research Scholar, and Paul Fildes, M.B., B.C., Assistant Bacteriologist to the London Hospital. Cloth. Price, $3 net. Pp. 227, with illustrations. New York: Longmans, Green & Co., 1911.

LA PRATIQUE DE L'OPOTHÉRAPIE. Principes, Indications, Posologie. Par M. L. Hallion, Directeur adjoint du Laboratoire de Physiologie pathologique des Hautes Etudes. Paper. Price, 2 francs. Pp. 148. Paris: Masson et Cie, 120 Boulevard Saint-Germain, 1911.

UROLOGISCHER JAHRESBERICHT. Einschliesslich der Erkrankungen des Männlichen Genitalapparates. Redigiert von Prof. Dr. A. Kollmann in Leipzig und Dr. S. Jacoby in Berlin. Literatur 1910. Paper. Price, 20 marks. Pp. 485. Leipzig: Dr. Werner Klinkhardt.

ANALYSES OF SUGAR BEETS, 1905 to 1910, Together with Methods of Sugar Determination. By A. Hugh Bryan, Chief, Sugar Laboratory. Bull. 146, Bureau of Chemistry, U. S. Department of Agriculture. Paper. Pp. 48, with illustrations.

A ESCOLA MEDICO-CIRURGICA DE LISBOA EM 1909-1910. Annuario Coordenado Sob a Direcçao de P. A. Bettencourt Raposo, Lente cathedratico e Secretario da mesma Escola. Paper. Pp. 160. Lisbon: Imprensa Nacional, 1911.

TREATMENT OF NEURASTHENIA BY TEACHING OF BRAIN CONTROL. By Dr. Roger Vittoz. Translated by H. B. Brooke. Cloth. Price, 85 cents or 3 shillings 6 pence net. Pp. 117. New York: Longmans, Green & Co., 1911.

LEHRBUCH DER KYSTOSKOPIE UND STEREOKYSTOPHOTOGRAPHISCHER ATLAS. Von Dr. S. Jacoby. Cloth. Price, 25 marks. Pp. 248. With 48 stereoscopic views and 121 illustrations. Leipsic: Dr. Werner Klinkhardt, 1911.

TWENTIETH AND TWENTY-FIRST ANNUAL REPORTS OF THE EVANGELICAL DEACONESS MOTHERHOUSE AND THE EVANGELICAL DEACONESS HOSPITAL, ST. LOUIS. For 1908 and 1909.

PROCEEDINGS OF THE TWENTY-SEVENTH ANNUAL MEETING (1908) OF THE INDIANA PHARMACEUTICAL ASSOCIATION. Maurice P. Schwartz, Secretary, Indianapolis.

NINETY-SEVENTH ANNUAL REPORT, MASSACHUSETTS GENERAL HOSPITAL, BOSTON, McLEAN HOSPITAL AND CONVALESCENT HOSPITAL IN WAVERLEY. 1910.

BIOLOGICAL ASPECTS OF HUMAN PROBLEMS. By Christian A. Herter. Cloth. Price, $1.50 net. Pp. 344. New York: The Macmillan Co., 1911.

EIGHTEENTH BIENNIAL REPORT (1909-1910) OF THE BOARD OF MANAGERS OF STATE HOSPITAL NUMBER 2, ST. JOSEPH, MO.

ELEVENTH ANNUAL REPORT, NEW JERSEY HOME FOR DISABLED SOLDIERS, SAILORS, MARINES AND THEIR WIVES, VINELAND.

THIRTY-NINTH ANNUAL REPORT, ASSOCIATION TO PROVIDE AND MAINTAIN A HOME FOR THE FRIENDLESS, NEWARK, N. J.

A BRIEF OUTLINE OF THE ORIGIN, GROWTH, WORK AND PROSPECTS OF THE CARTHAGE (Mo.) HOSPITAL ASSOCIATION, 1911.

SIXTIETH ANNUAL REPORT OF THE BALTIMORE HUMANE IMPARTIAL SOCIETY AND AGED WOMEN'S AND MEN'S HOME, 1910.

ANNUAL REPORT OF THE MARYLAND GENERAL HOSPITAL AND THE MARYLAND LYING-IN HOSPITAL OF BALTIMORE, 1910.

ONE HUNDRED AND TWELFTH ANNUAL REPORT OF THE BOARD OF MANAGERS OF THE BALTIMORE ORPHAN ASYLUM.

ELEVENTH BIENNIAL REPORT (TO NOV. 30, 1911) OF THE NEBRASKA INDUSTRIAL HOME AT MILFORD.

REPORT ON SEWAGE DISPOSAL. The Sanitary District of Chicago. By George M. Wisner. Paper. Pp. 83.

TWENTY-SECOND ANNUAL REPORT, ST. FRANCIS' HOSPITAL FOR INCURABLES, CINCINNATI. For 1910.

FORTY-FIFTH ANNUAL REPORT, SPRINGFIELD (MASS.) HOME FOR FRIENDLESS WOMEN AND CHILDREN.

TWENTY-NINTH ANNUAL REPORT, NORTHERN PACIFIC BENEFICIAL ASSOCIATION, ST. PAUL, MINN.

TWENTY-FOURTH ANNUAL REPORT OF THE CHILDREN'S FREE HOSPITAL ASSOCIATION, DETROIT.

SIXTY-THIRD ANNUAL REPORT, PROTESTANT FOSTER HOME SOCIETY, NEWARK, N. J. 1911.

FORTIETH ANNUAL REPORT OF THE PATERSON (N. J.) GENERAL HOSPITAL ASSOCIATION.

NINETEENTH ANNUAL REPORT OF THE MALDEN (MASS.) HOME FOR AGED PERSONS.

TWENTIETH ANNUAL REPORT, BAPTIST HOME SOCIETY OF NEW JERSEY, NEWARK.

THIRD ANNUAL REPORT, NORTHWESTERN GENERAL HOSPITAL, PHILADELPHIA.

THIRTY-THIRD ANNUAL REPORT OF THE WORCESTER (MASS.) STATE ASYLUM, 1910.

REPORT OF THE MILFORD (MASS.) HOSPITAL. For Year Ending May 31, 1911.

NINETEENTH ANNUAL REPORT, HOME FOR CRIPPLED CHILDREN, NEWARK, N. J.

ANNUAL REPORT, ST. JAMES' HOSPITAL, NEWARK, N. J. For 1910.

ANNUAL REPORT OF ST. JOSEPH'S GERMAN HOSPITAL, BALTIMORE.

REPORT OF THE CHILDREN'S FRESH AIR CAMP, CLEVELAND.

ANNUAL REPORT OF ST. AGNES' HOSPITAL, BALTIMORE, 1910.

TWENTY-FOURTH REPORT, BOSTON HOME FOR INCURABLES.

CIRCULAR OF THE BIGGS SANITARIUM, ASHEVILLE, N. C.

PROSPECTUS OF THE GLENVILLE HOSPITAL, CLEVELAND.

SOUVENIR OF THE MAYFIELD SANITARIUM, ST. LOUIS.

REPORT OF RANDOLPH (VT.) SANATORIUM.

V. 5
1911